BAUSCH+LOMB Stellaris **Vision Enhancement System** 



Operator's Manual For use with Stellaris Elite™ REF BL14455 and REF BL15455

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t Wol hif U W3'''195y3" 005) 4 MHz' 65 y TM69 y 5 TM "(H 36 TY3'3' TY90'Y3TO'' 98M0' 4'5 Hy5 l d b b 3y FF hh H) 5 y 35) FEF14 H OHI "(O" "(H 6M19 F O 3 Cq - ' "(O" 3'5) H 4 MH5 6 H'''TM' I E J4' H9F. PE J('' HCq - ' "(O") y) '4 MHz' I P JW f H6 CI JW f ) y) 'A" (H '5 FF907' (964 T J4 4 H6 CE J4 4 .LIS J6 TM/CW15 6 76 65 HF 6 M8 H' "(O" z' M5 H OF H 4 6 9' Hy5 O] T4 .I J6 TM' HC



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t Wolh f U W60 F26 H6H265 T65 H7NC



t Woll H f U f 96M5 (5) 9'30yz@0 $\oplus$ Ty5 653 $\oplus$ z' yTMO V "-'5 H''8M74'5HJFT $\oplus$ 55'TM H y5'8MNy3'5H 9'TM7HJT $\oplus$ 4 y92' fig 6F7(H)3m53 $\oplus$ K69 fig 6F7(H)3f 9y 'CK



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h[ fi i gM! fi⇔fiY>yv srtΩfiw>yv uz≓ r"r fi[ "fiJ>fi=rZv1 firu1rYu>rY=w<"fiJ<tJ⇒fi&z•vu =v>zYx=sv√s vvY="⇒x&=3

L =zYx v!fi<fiY>yv wfiY>fiw>yv ="=>v&! diZzuv=wz>v<u r>&fi=| yv<t rz<wf<s fi>y R J zu4Lz<P]tyr Yxv -R4L1 . rYu Lz<Rfi<t vu UYw1=zfiY-LRU wfi<! fi=>v<fi<r >rYu t fi&s zYvu =J<xv<\*3

h yv dr dy firzcfiJ d J = sJz >zYfi yv = "⇒v& fi! diZauv w dou r lefi=! yv dr rzcwicr Y deficr Yu! fi=deficr Yu ! fi=deficr Yu ! fi=deficr Yu dizer z dicer Yu dizer z dicer Yu dizer z dicer Yu diwyv = "deficr Yu Lzckfid vu UW = fiYzY! fi=deficr Yu t fi&s z Yvu dicer z dicer Yu die v fiY yv srtΩ fiwyv = "deficr Yu UW = fiYzY! fi=deficr Yu UW = fiYzY dicer z dicer yv dicer z dice

 $\begin{array}{l} \text{hyv} = \text{``====} \text{w.} \text{tr Ys v} = \text{v.} \text{vis} < \text{v.} \text{v.}$ 

 $\begin{aligned} &\text{Misy rz} \text{fi} \neq \text{J} > \text{! fi} \Rightarrow \text{yrZv zxy} \text{vu } < \text{Yx} = \text{J} < \text{fi} \text{YuzYx } \neq \text{v} & \text{3h yv } < \text{Yx zxy} = \text{J z s v} = \text{fi zu " } \Rightarrow \text{zxy} > \text{w} \text{ Yt } \neq \text{fi} \text{Yz} = \text{rt} \neq \text{Zv r Yu } \text{[ z yzYt fi} < \text{vt } > \text{!} < \text{vt } \neq \text{vt } \text{yv } < \text{Yx v} = \text{J} < \text{vt } \text{xy} \times \text{yv } = \text{vt } \neq \text{xy} \times \text{yv} = \text{yv} = \text{yv} \times \text{yv} = \text{yv} = \text{yv} \times \text{yv} = \text{yv}$ 

## PNTM mxkkzqX0xk&Ykv 5zXH,



t Wo l hl f U t - '5 MR5) ) 9y VIEOG (MR65AH' 67- Hy34 ONO90) y 1665 R6MIN F y 33z' y H69 yz 6V' H' 7y 1675 HF' ® 3 V 3 16 y V60 7y 1675 H5 IM/IC



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g USUj / AA kS/ VV[UqBA / ⇒B]]U[IB] jH/ j R UAID' jHB BDDB≒jIqB nE v UIB HBIFHj4



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 $i \ U \ UVjIR kR / [VI[/jIUS / SA [BDkz \ VB[DV[R/S=22]HB V/jIBSj,] B'BRk]j : B/j jHB ]/RB IBqBL/] jHB p H33y 90Fd 30HY qI]IUS BSH S=BRBSj ]"]jBR / [VI[/jIUS VU[j US jHB Dk:IA =UIB=jIUS =/]]BjjB4 nD;HI | I] SUj VU[]I: IB2k | B jHB V | jIBSj B'B IBqBLUDD)B; D8/jk | BIS jHB V | UF[/RR ISF] = BES4$ 

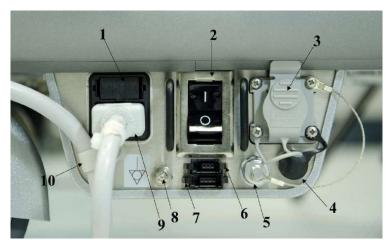


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OHB Ukj3UDDD ⇒JU "NI[BIB]] y "]jBR yBjkVI] g I]/: IBAY4vB[DD[RISF/]UDjx/[BkVF[/ABxIIL/I]U[B]Bj jHBNI[BIB]] y "]jBR yBjkVjU g I]/: IBAY40U]BjkVxI[BIB]] UVB[/jIUS2]BBv[IR/["-nSjBF[/jBA.iUUjfUSj[ULy"]jBR yBjkVUSV/FB-73064

h y v **p H:3); 90F d 31HY** Zz=friY v Yyr Yt v & v Y>=''⇒v & z=! <⁄2t fr Ywx J </u r>>>y v w t >fr <′ >fr & z Yz&z\* v ⇒v J! r Yu z Y=x r >fr Y

hyv!fi[v<trs v1d<&r<"-UX>x<r>vu. Rfifi>NfiY>fi rYuP>yv<Yv>tfiYYvt>fiY+r</r>v fitr>vur>>yv fi[v<<ra>v<fiw>yv ="⇒v&3



RzxJ<\(\pi\_63/3/\) zXS2 AS\(\mathbf{2}\) zUB+9jS- 3

63RJ⇒v Tfi uv373a rzYdfi[ v<g[ z\*y1uz±fiYYvt>="⇒v& wfi& &rzY=Zfi \*xv3gvv ; 5; 56261 !r∢x∢!ytВ3 343

83P>yv<Yv>dfi<393gvt fiYur<'' -XU&. Rfifi>NfiY>fi dfi<3: 3d<&r<'' -U\(\frac{1}{2}\)x<\(\frac{1}{2}\)xu. Rfifi>NfiY>fi Mrt \(\Omega\)!

Nrs v dfi<3: 3a zt<\(\frac{1}{2}\)till fi! v Rz>v<\(U\(\frac{1}{2}\)x)<\(\frac{1}{2}\)fi (\Omega\)A3f fifi& U\(\frac{1}{2}\)x<\(\frac{1}{2}\)fi (\Omega\)B3dfi\(\frac{1}{2}\)Xe P\(\Omega\)r zr>fiYNfiYytt<\(\frac{1}{2}\)A3f fifi& U\(\frac{1}{2}\)x<\(\frac{1}{2}\)fi (\Omega\) S3dfi\(\frac{1}{2}\)Xe P\(\Omega\)r zr>fiYNfiYytt<\(\frac{1}{2}\)A3f fifi\(\frac{1}{2}\)Xe V\(\frac{1}{2}\)Affi (\Omega\)Xe V\(\frac{1}{2}\)Affi (\Omega\)Xe YzfiYN z! 3

g''\(\frac{1}{2}\)x\(\frac{1}{2}\)Ze YfiJ> r\(\frac{1}{2}\)Xe V\(\frac{1}{2}\)Xe Yfi>yr Zv 91; fi< A3



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#### n904 y9®.h5H) 9yH / e 66Hb 65H963

hyv d<&r<'-U<xv<xu. Rfifi>NfiY<fi  $\Rightarrow$ yz! ! vu [ zy r =" $\Rightarrow$ v<t fiYxzY=r r $\Rightarrow$ v<xeYx = zxy1r Yu tr YJ=v vzyv<[ zxvu fi<[ zxv v=t fi&&J Yxt r>fiY3h yv vx $\Rightarrow$ x&v >yv >H3y9Fd 3HY Zz=fiY vYyr Yt v&vY>=" $\Rightarrow$ v<z=J $\Rightarrow$ vu1"fiJ &J $\Rightarrow$ J $\Rightarrow$ yv [ zxvu t fiYYvt>fiYxfi v $\Rightarrow$ rs z=y t fi&&J Yxt r>fiYs v>1 vvY>yv d<xer<'-U>xv<xvu. Rfifi>NfiY>fi r>1 vu >yv >PH3y9Fd 3HY Zz=fiY vYyr Yt v>v>Y>="=x>x=3

73P u VB[/jU[,] s /Sk/L

Rfi<[zsvutfi&&JYztrzfiYltfiYYvt>zyvd<zkr<"-Uzvx∢zvu. Rfifi>NfiYzfi srtΩJ!trs v wfi& zyv srtΩfiwzyvd<zkr<"-Uzvx∢zvu. Rfifi>NfiYzfi zfizyvfi[v<<vr<fiwzvp#13by90Fd30HYZzzfiYvYyrYtv&vY>="=xv&3

gvv!rxv6297 vfi<uv\*z=fiYJ=v fiw>yv d<&r<"-U\*xx</>vu. Rfifi>NfiY>fi 3

#### pH5 y9 e66Hb65H63

hyv g>rYur<u Rfifi>NfiY>fi z==z&zr<xi >yv d<z&r<' -UY>xx<xu. Rfifi>NfiY>fi 1sJ>[ zyfiJ>>yv r=v<vv=Yx = z\*y3U>trYJ=v vzyv<[ z<vu fi<[ z<v v=t fi&&JYtr>zfiY3

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RzxJ<\(63372Y N2+ IyGjSV2NjSRM zzj q zGj2zTNGR BjNGRN2Rt zzj q zGj2zTM

#### dH'95'Hbyz3'.67H65y3'

k yvY>yv P>yv<\v>trs v z=Yfi>zYJ=v1zY=r >yv r>rt yvu !<fi>xt xZv tr! zYxfi >yv fi! vY=fit Ωx>

#### b 64 79' FF WD b 655' TM65

 $NfiYYvt>_{yv}v] \not \sim \forall r \ r \not \sim yfi =_{v} \not \sim r < fiw_{yv} =_{v} \leftrightarrow r =_{y}fi[\ Ylr\ Yu\ \not \sim yvY \not \sim r\ r \not \sim = fiJ <_{v}3$ 

u VB[/jU], ] s / Sk/L 73T

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t Woll II f U e 69 67164 M4 y F7 Oby 1665 y 5 9' (3M' 7' 9' (694 y 5 TMAH' 7y 10' 5 HF' ® 4 MFH; 'y HH' Fy 4' 3' V 3 y F H' p H33y 90 F d 3 HY V 1065 '5 - y 5 TM 4' 5 H1 9 F 14 y F7 Oby 1665 7 6 9 10 H (F 0 F 5 6 H7 6 H 0; 3' ANF H' 7y 10' 5 H ® 3' V 3 6 ((F H' y HN)' (5 H' 796) 9 y 4 4 (5) F 19' '5 C

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- r3 d Jx yv! fi[ v < t fi< u zYfi > yv [ r 3
- s3 hJ<YfiY>yv!fi[ v<=[ z≯y1 fitr>vu fiY>yv srtΩfiw>yv sfi>sfi& fiw>yv ="=xv& t fiY=fi v1rYu [ rz>vfi<>yv =fivs[ r<√ shi firu3
- t 3 NfiYYvt>>yv Rfifi>NfiY≤fi srt ΩJ! trs v xfi yyv = "⇒x& xfi zYzzrxv [ z<v v=fi! v<r >xfiY3
- u3 hyv sr≫v<' 2Y>yv Rfifi>NfiY>fi &J⇒t yr∢v r> vr⇒fiZv<'/2xy>s vvfi<>v ≥t r Y s v J⇒v [ z<v v="3hfi t yr∢v yv sr≫v<'1"fiJ t r Y J⇒v fiYv fiw>y<v &v>yfiu=3gvv!rxv\(\phi\)2 93hfi J⇒v yv ="⇒v\& z\&\&vuzr>v"1J⇒v yv!\(\phi\)2zıvu t r s v >fi t fiYYvt>>yv d<z\&r<' -U\(\phi\)vx<\>vu. Rfifi>NfiY>fi uz<vt>"3i yv p H3y90Fd 3HY Zz=zfiY vYyr Yt v\(\phi\)vY>="⇒v\&3
- v3 Uw"fiJ!J∢yr=vu >yv a a N1=vv!rxvç6296 vfi<=v>J!uv>rz=3



RzxJ<v;6393ASN2 zU9+9jS- a9WŁXYGVN2 PzGGSPjYzG3



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0HB]"]jBR [BXkI[B] IDI;B[BA R BAI≠ LF[/AB/I[ U[ R BAI≠ LF[/AB/SI][UFBS2/j T840;U766-V]IF
-066-Kv/ jUPa6-Kv/ U[ 046-jUP4v:-/[. / SA/ IDUk [/jB/UD8480-yf i s -PC4T-yr v s .4

gvv²63673Rfifi>NfiY>fi # fiY! rxvq6297 vfi<r uv\*zvu uv=t <! >fiYfiwd<br/>4&r<" -U5vx<br/>1>u. Rfifi>NfiY>fi fi! v<br/>1>fiY3

73W u VB[/jU[,] s /Sk/L]

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## PNUM 5zXXCk) 7, RxH®5™8XzL



c WI f do U c 6 56HMF 05 H' 79' F 5 $^{\text{TM}}$  6( (3y4 4 yz3' y5y' H1' HF YA 0F05('  $^{\text{TM}}$ 5 HEAY' 96K3 F79y RFA69 05 y5 6''  $^{\text{R}}$  '5 90 $^{\text{TM}}$  y H 6F7-' 9' C



t Wol H f U q-OFFRH4 F-6MB 6538z' 67'9yH z87'9K55'3"-6-yVz''5 My(b' y5 y9' 8M)3(0 H6 MF H OFFRH4 C



t Wolhl f U c 6 5 6 H4 y 5 My 3  $\mathbb{R}$  (69  $\mathbb{T}$  M H ' hs n63' 6" 5" y 9 (1 H ' FR H 4 GF 65 C



t Wo l H1 f U c 6 5 6 H4 6 (( $\mathbb{S}$ H4 ' 763' - '0) - H5 9 4 y 5 My 3B(6 9  $\mathbb{I}$ M' H' 763' - '0) - H5 FH (FT  $\mathbb{S}$ MB'  $\mathbb{I}$ YMF' y 5 (5  $\mathbb{I}$ 5 T999'  $\mathbb{I}$ 4 H5 6 (H'  $\mathbb{I}$ 6 HB' - '0) - H3 y (6) H6 7 y H7 5 H5 IMPC



t Wo l Ht f U t - '5 MH5) ) 9y VIEOG (MH65AH' 67- H y 34 O ND90) y H65 F6MIN F y 33 z' y H69 y z 6V H' 7y H65 HF'  $\otimes$  3' V 3 H6 y V60 7y H65 H5 INO $\otimes$ C



b Wr q hml U c 6 56Hz 36T $\mathbb{Z}$  y  $\mathbb{Q}$  V 5HC



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g USUj / AA kS/ VV[UqBA / ⇒B]]U[IB] jH/ j R UAID' jHB BDDB≒jIqB nE v UIB HBIFHj4

#### 6H®k(k) 5™8XzL 2k

d J x >yv!fi[ v<=J!! "t fi⊲ı zYxfi >yv[ r 3NfiYYvt>>yv t fi&! <v==vu r z<yfi=v xfi >yv ="=xv&3

hJ < Y fiY > yv = (z \* y \* r > yv \* s fi \* s fi \* w \* yv = " = y \* k \* t fiY = fi v 3



t Wolhl f U d5FMP HyHH '76" '9 T09 0F96MH y" y (964 PDy((0 Ny9) y FK 79' V 5 Hy TNO '5 H3 0F T055 'TH65 69 PO(7765) - y fly 9 FC



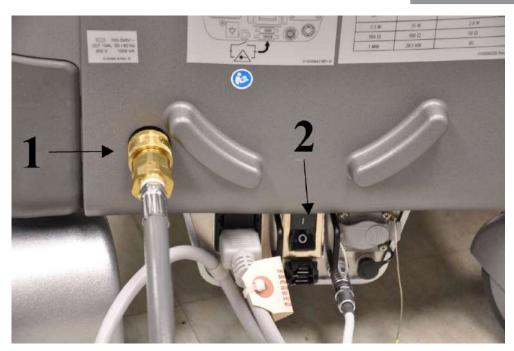
b Wr q hml U c 6 56HHA95 H (FF' (H) $^{M}$  6(( MS HB H' FE)H4 - yFz''5 7967'93 $^{M}$ F MH 6"5C



b Wr ghml U c 6 56H OF 055' THIGH 4 (964 76"'9" - 08" 05 MF C



*l 6HU* Ok[SISF UDDjHBs / IS v Ux B[ yx Ij=Hx IILAI]=USSB=j jHB]"]jBR IDUR R/IS]4



RzxJ<v¢3 3**p N**2x Ozjjz- zU9+9j\$- 3 634Lz<yfi⇒v t fiYYvt >zfiY373;a rzYdfi[ v<g[ z≯y3



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0HB]"]jBR [BXkI[B] DNjB[BA R BAI≠ LF[/AB/I[ U[ R BAI≠ LF[/ABSIj[UFBS2/j T840jU766-V]IF -066jUPa6-Kv/ U[ O6jUP4ı÷/[./SA/ DUx [/jBUD8480yf i s -PC4T-yrvs.4

 $d = yv! fi[ v < sJ > fiYfiY > yv wfiY - fiw > yv = "\Rightarrow w & 1r Yu [ r > wfi < yv = "av Y xfi t fi & v fiYr Yu > yv = fiw f r < xfi fir u 3 h yv wfiY - fi[ v < = z + y z - s < xy > < [ yv Y > yv = "av & z - fiw f r Yu u z & = [ yv Y "fiJ x | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + yv = "av & fi Y 3 | x + y$ 

 $\text{h yv } \textit{pH33y90Fd 3HY} \quad \text{Zz=} \text{fiY vYyr Yt v&vY} = \text{``$=$v$. ! v<$n$} &= r = v \text{ vAt yvt } \Omega \text{ vrt y } \text{ x&v } \text{yv ! fi[ } v<\text{z=}J < \text{Yvu fiY3h yv } = \text{``}=v \text{ x} \text{ rJ} \text{ fiXer} \text{ yrt } \Omega = \text{z=}t \text{ fiYexJ} < \text{xfiY=vfi<rY'' t yr Yxv=} \text{ xyv } r \Rightarrow \text{x&v } \text{z>}[ r=J < \text{Yvu fiY3} = \text{xyv fiY3}]$ 



b Wr q lml U mzF 9V FBH4 (y) 56HGF4 'Hy) 'F"- '5 76" '905) MI FBH4 (69 (OHMF 'y TM y ®y 5 H2' y 7796790; H y TH65 ((9'8MD' CWH6 6z F 9V (OHF)) FF HI 7904 (5) 69 TY3L 9y H65A7- y TOD9y) - y 5 70 TM H66(5) y 5 169 VHY TH64 ®- y 5 70 TM HH65) (69 TO99' THF 04 73 H65 C



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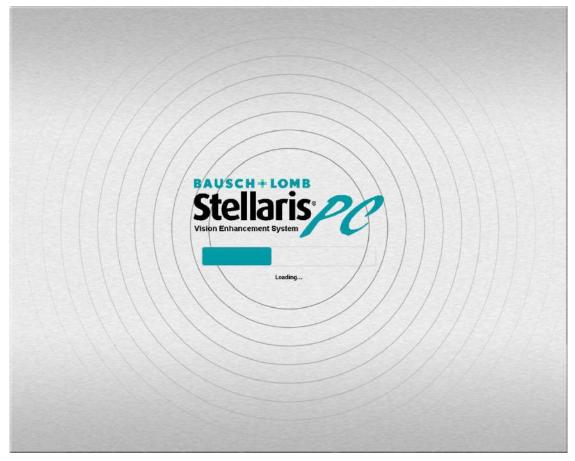
0 + B Ukj3UDD = U["NI[BIB]] y"]jBR yBjkVI] g I]/: IBAY4yUDx/[BkVF[/ABxIIL/I]U[B]Bj jHB NI[BIB]] y"]jBR yBjkVjU g I]/: IBAY4yBBy"]jBR yBjkVnS]j[k=jIUS] US V/FB-7306 jU=USDFk[B v [IR/["-nSjBF[/jBA. i UU]f US][ULjUx I[BIB]] UVB[/jIUS4]

k yvY>yv = '=>v& tyvt  $\Omega$  z=t fi&! v>vu vfi fi[ zYx = '=>v& ! fi[ v $\varnothing$ J ! 1>yv **B®NW9P2SSG**[ z r!!vr<-=vv RzxJ $\vartriangleleft$ v $\phi$ 3, fiY!rxv $\phi$ 267.3



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i UIIU.k ISF]"]jBR ]Hkj AU.k S2x/Ij/ R ISIR kR UD7O-]B=USA] : BIDJ[B [B]j/[jISF jHB]"]jBR 40 HB]"]jBR I] IDJIL"]Hkj AU.k S/DB[ jHB IDUSj V/SBLVU.k B[ : kjjUS IIFHj =H/SFB] IDJUR AIR jU: [IFHj4



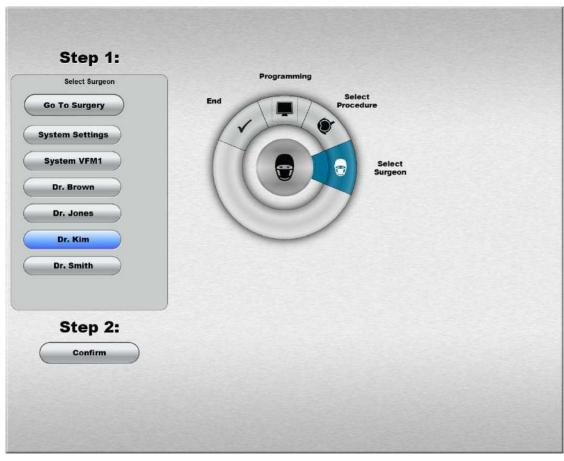
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c Yt v >yv =fiw{ r < yr = wYz=yvu firuzYx1>yv BS\*SPJ 72zPSR02S BP2SSG[ z r!!vr < JYv=r uvw J >! < fit vuJ < yr = s vvY =v>=vv! r xv <827; .3



RzxJ<vç63A3 **BS\*SPj 7 2z PSR02S BP2SS**G3

 $L \ \textbf{BS'SP'} \ \textbf{B02VSzGBP2SSG} - r = \texttt{yfi} [ \ YzYRzxJ < \texttt{y}63BfiY! \ rxv\\ \texttt{y}6269. \ [ \ z \ r!! \ vr < [ \ yvY"fiJ \Rightarrow vt > rY">"! \ v fiw! < fit \ vuJ < v\\ \texttt{yv} \ \textbf{BS'SP'} \ \textbf{72zPSR02S BP2SSG3}$ 



RzxJ <v¢63B3**BS¹\$Pj B02V\$z GBP2\$\$**G3

#### p'3'T#pM9)'65



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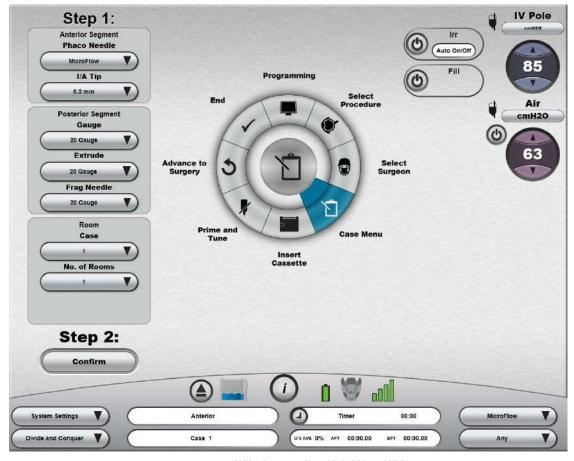
nD/HBb65(094: kjjUS I] SUj /  $\Rightarrow$ IqB2jHI] ISAI $\Rightarrow$ jB] USB U[ R U[BR UAkIB] x B[B SUj ABjB $\Rightarrow$ BA IS jHB] "[jBR / SA ID[jHB[ UVB[/ jIUS I] SUj / III] BA4

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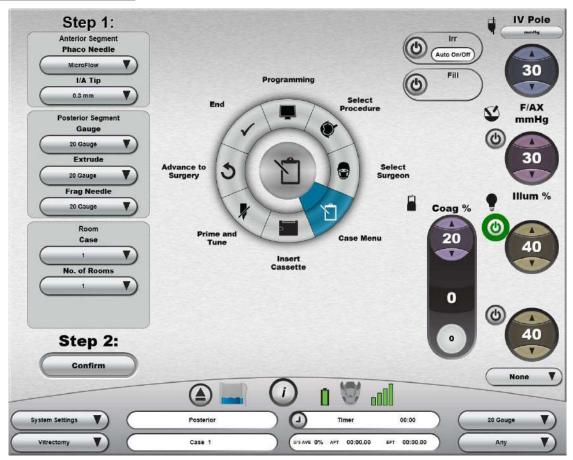
#### p'HM pTY'5

 $\label{eq:control_problem} \text{hyv } \textbf{BSj0} \circledast \textbf{BP2SSG} r \quad \text{fi} [ \text{ ="fiJ} \text{ $\pi$} \Rightarrow \text{t } v \Leftrightarrow \text{rZY!} \text{ $\text{dit } v \text{uJ}} \Leftrightarrow \text{! $r$} \text{ $\text{dit } v \text{uJ}} \Leftrightarrow \text{! $r$} \text{ $\text{dit } v \text{uJ}} \Leftrightarrow \text{! $\text{dit } v \text{uJ}} \Leftrightarrow \text{$ 

hyv UY=v\$Nr=v>x fi! xfiY[ z svyxy xyxu [ yvY"fiJ zYzxr " =vv xyz==t <vY3



 $RzxJ < \sqrt{6}3C3 o \ GjS2Vz2 \ r \ z- \ NYG q \ N9S \ 4 \ SG0 \ BP2SSG3$ 





 $LuZrYtv > 1 > yv fi! vY! rt \Omega \Rightarrow y! s" \Rightarrow vt > 2Yx y COS2j q NOOSjjS wfi& > yv q T2Px 4 SCO3$ 

## PMM 5XY (30k) Y 1 z % 3 (30k) qz v H (32k)



t Wol H f U a'(69' z') 05505) y 796TM MP'A'5FMP HyHH'9' OFFM (0"0"5HN63M4' 6( 0990) y H65 F63M465 (69 H'''5H0P' 796TM MP'C



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hS|k|Bjk:B|Bj=USSB=JUSI|B=k|BxHBS=USSB=JISFjUjHBHSAVIB=B/SA|"|jBR4

#### GCp'HM H' FH908' & 3 C

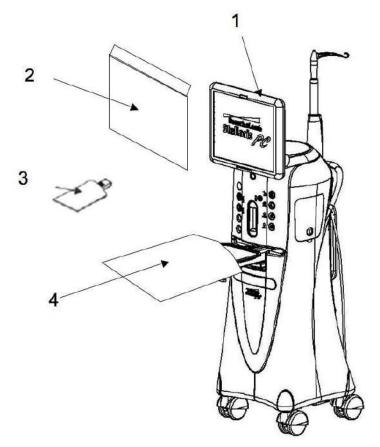
 $c!vY>vuz=!f=rsv!rt\Omega rYuu=fi!tfiY>vY>=fiYfir=>v<_zv=J<_vtv3$ 



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s / KB ]k [B j U k ]B j HB V [UVB[ V | =K IDI[ j HB R UAB "Uk / [B k ] ISF4v / =K] x IILS Uj x U[ K IDI[ Uj HB [ R UAB] 40 HB V | =K] / [B = UIU] = UABA4d S j B [ IU | V | =K] / [B F [ BBS / SA5U | IIFH] : Ik B4v U ]j B [ IU | V | =K] / SA f UR : ISBA v / =K] / [B = UIU] 3= UABA : "SBBAIB F / k FB 3 86 -F I] : IL =K28C-F I] F [BBS2 / SA 80-F I] : IL =K28C-F I] F [ BBS2 /

L $\gg$ ty  $\gg$ v $\ll$ v  $\equiv$   $\ll$ vYu $\ll$ ! v s"! rt zYx  $\gg$ v u $\ll$ ! v fiZv $\ll$ yv  $\approx$ l! fiw $\approx$ v pH3y9Fd3HY  $Z=\pi$ fiY vYyr Yt v&vY> =" $\implies$ &  $\equiv$   $\ll$ vYr Yu  $\implies$ t J $\ll$  [  $\approx$ y  $\approx$ v ruyv= $\approx$ Zv  $\approx$ d!  $\approx$ l! 1Yfi> $\approx$ v  $\approx$ t fiw $\approx$ v uz $\approx$ ! r" r= $\approx$ yfi[ YzY $\approx$ v z J $\approx$ t  $\approx$ fiY s v fi[ 3



RzxJ<\(63673BPVB- Nj\PR\VV2N zUBj\S2\Y\S'r\2\N\S\V3\\

63,Luyv<v=t<vvYu<t!vfiY>yv>fi! fiw>yv=t<vvY!rYv 373,gt<vvYu<t!v383,LY>v<fi>fix>tfiY>fi u<f!v3 93,a r"fi h<f" u<f!v3

#### I Cp' HM e 3MD b 633' TH65 p RFH4



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 $hS]k[B]kIDD=IBSj\ qUlkRB\ UDI[[IF/jIUS\ ]UlkjIUS\ I]\ /\ q/\ IIU:\ IB\ IDI[\ jHB\ V[\ U=BAk[B40\ HB\ IBqBL]HUkIA:B\ R\ USIjU[BA\ Ak[ISF\ jHB\ V[\ U=BAk[B40\ HB\ IBqBL]]HUkIA:B\ R\ USIjU[BA\ Ak[ISF\ jHB\ V[\ U=BAk[B40\ HB\ IBqBL]]HUkIA:B\ UDI[\ U=BAK[B40\ HB\ IBqBL]]HU$ 

 $\begin{array}{l} UY=v \Leftrightarrow yv \text{ wJ zuzt} = t r = v \gg z Y \text{si } yv = \text{fi} > \text{fi} Y yv \text{ wfi} Y > \text{fiw} yv = \text{fi} > \text{w} & r Yu \text{ yfi } u \text{ J} Yz \text{ } \nearrow z = r J \text{si} \& r ztr \text{ "} tr! \not \exists \checkmark u \\ s \text{ "} yv = \text{"} \Rightarrow v \& 3 \text{hyv } tr = v \gg y \text{fi} J = z Yx \text{ srt } \Omega \text{ zxy} > [z \Rightarrow \text{fi} ! s z Y\Omega z Yx r Yu < v \& r z Y \text{ fi} Y [yv Y yv = \text{"} \Rightarrow v \& tr! \not \exists \checkmark = yv \\ tr = v \gg 3 \end{array}$ 

# LCb 655'T#H' 7967'9 y TMMFR690 F H6 H' FRFH4 (69 y 5 W5 H9069An 6FH9069A 69 b 64 z 05' 796TM MP' C



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 $nD^*Uk / [Bk]ISF / qBSjBAdI[iU[=BAnSIb]IUS-dinV/=K2R/KB]k[BjU=USSB=jjHBiIkIA5dI[hz=HSFBIDIjB[jU]HBi5d%VU[jUSjHBIDUSjUDjHBR/=HISB4$ 

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- UJ&zYr≯fiY2gvv!rxvQ267
- R J zu4L z<P] t yr Yxv 2 gvv! r xv¢9275
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- XzYvr<R Jzu UX®t >xfiYl XzYvr<j rt JJ & 2 gvv! rxvç9285
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#### LYx<fi<Ofi&rzY2

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- Rz] vu NfirxJ r>zfiY2gvv!rxvç929C
- XzYvr<NfirxJ r>zfiY2gvv!rxvQ26

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i [/FRBSj/jIUS k]B] jHB ]/RBVUx B[=USSB=jIUS/] jHB kIj[/]UkSA H/SAVIB=B4u SL" USB IDtS=jIUS =/S: Bk]BA/j/jIRB4



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t Wolld fu q-'y504 y1665 F033MF19y Fi H' H17 F4z MH 656H9'79' F5HF1908' H $^{\text{TM}}$ 508 M C

#### NGn 904' v 5 q M5'



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OHB]"]jBR x IILSUj V[UqIAB DBBA: /=K/] jUx HBjHB[ U[ SUj DBkIA I] V[B]BSj Ak[ISF V[IR ISF4 nS]VB=j jk: ISF/SA = USD[R jH'j Ij I] DNIBA x IjHDkIA/SA DBB UD: k:: IB]/DB[ B'=Hv [IR B/SA OkSB4wBVB/j jHB V[IR ISF V[U=B]] IDjHB jk: ISF I] SUj/ABXk/jBL" DNIBA x IjHDkIA4

k yvY $\Rightarrow$ yv tr $\Rightarrow$ v $\Rightarrow$ yr=s vvYzY $\Rightarrow$ v $\Rightarrow$ vu rYu tr!  $\Rightarrow$ 1 $\Rightarrow$ u s" $\Rightarrow$ yv &rt yzYv1r Yu r rtt v $\Rightarrow$ 6\(\alpha v=1\alpha s ZYx rYu yr Yu! zvt v= yrZv s vvYt fiYYvt  $\Rightarrow$ 1\(\alpha v='\sigma v & z=\alpha ru"\) wfi<\(d\alpha v r Yu h J Yv 3hfi! \sigma fit vvu \(\pi\_1 \times\_1 v u \times\_1 v u h J Yv ! yr \Rightarrow 1 \rightarrow v t> \(\py v r!! \sigma fi! \sigma f

#### Rfi<dfi=>v<zfi<Ofi&rzYD

- gv vt>>yv s N9+72Y S sJ>sfY wfi& >yv 72Y S NGR COGS BP2SSG≯i wz >yv vw>r Yu <xy>>J s zYx [ zy Mr r Yt vu gr >gfi J>sfiYlr Yu >yvY! v<xfi-& r >y⇒fiw>yv! YvJ&r>t tJ>>>OJ<2Yx >yz=! dit v=|>yv x 4 Zz>\* wvu zYwJ=zfiYUJ !fi v [ z < z=v ≯i 695 ţ & fi< fi[ v<zw&r] z&J& tvz zYx yvzxy>z==v> fi[ v< >yr Y 695 ţ & wfi<yv r Y>>zfi-&UY>yv! fi=>>zfi-d fi&s zYvu ufi&r zY=|UJ !fi v [ z < z=v ≯i >yv &r] z&J& tvz zYx yvzxy>! dix 4 &&vu wfi<>yv = \*\*=x\*&3k zy yv rz<! <==J <vu zYwJ=zfiYl>yv! <==J <v [ z < z=v ≯i 658 &&T x vfi<! fi=>>zfi-d fi&s zYvu ufi&r zY=3
- gv vt>yv **72Y SdCS9j EY** sJ≫fiYxi rt zZrxv zyv Zrt JJ& fiY<xy>=zuv r = zxrxfiY zYv r Yu xv⇒xyv ! YvJ&rxt Zz∞vtxi&" wf Yt zfiY3h yv yr Yu! zvt v z! &J⇒s v = l s&v<xvu zYMr r Yt vu gr >g fi JxfiYuJ<2Yx xyz=! dit v=3L wx<xyv zYv yr=s vvY! <&vul zyz=sJ≫fiY[ z svt fi&v **CS9j EY**1[ yzt y [ z rt zZrxv zyv t Jxv<xy>[ zyfiJ>r =! zxrxfiY3
- gv vt>yv 72Y SdOOS DdB sJ≈fiYrfi rt zZr x r = zerzfiYfiYyv vw> zYv r Yu zJ Yv yv wer x&vYzrzfiY yr Yu! zvt v3hyv v vt zd t fiYYvt zfi<fiYyv wer x&vYzrzfiYyr Yu! zvt v &J⇒s v zY=v<xu zYzfi zyv pH33y90F d3HY Zz=fiYvYyr Yt v&vY>="⇒v& r Yu zyv z! = Js &v<xvu zYMr r Yt vu gr >gfi JzfiYs vvfi</br>
  z=v vt zu3L vw<zyv zYv yr=s vvY! <z&vu1zyz=s J≈fiY[z svt fi&v COOS DdB1[yzty[z rt zZr x r = yfi<zv<t "t v fiwr=!zerzfiYr Yu zl YzXx3]
- gv vt>xyv **72Y Sdb 0 &**s J>xfiYxfirt xZrxvr = zxtxxfiYxfi vz xyv vvxr = zxtxxfiY zYv [ zxy Mr r Yt vu gr > gfi J>xfiY3L vxv<xyv vxxxy = y = y 1 = y s = y 0 v y >! < &z y x t "t v = [ z sv = zxy>" = y fi<xv3

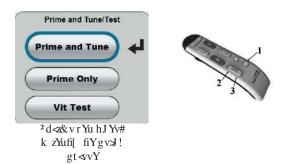
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- gv vt>>yv **72Y SdCS9j EY** sJ≫fiY≯firt ZZr×yv ZrtJJ& fiY</br>
  ! YvJ&r>t Zzvxt xfi&" wl Yt>zfiY3h yv yr Yu! zvt v >! &J⇒s v ⇒ s &v<xvu zYMr r Yt vu gr >g fi J>fiYuJ</br>
  ! YvJ&r>t Zzvxt xfi&" wl Yt>zfiY3h yv yr Yu! zvt v >! &J⇒s v ⇒ s &v<xvu zYMr r Yt vu gr >g fi J>fiYuJ</br>
  ! YvJ&r>t Zxvxyv zYv yr=s vvY!</br>
  ! XvXxy=! \( \delta \text{tit} v = \delta \text{Lvw} < \text{yv} \text{ zY} yr = s vvY!</td>
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- - i ★=fiJ Yu yr Yu! zxt vDgv vt>yv **72Y SdOGS DdB** sJ≽fiY fi zYzzr≯! <&zYx fiwyv z<zxrzfiYr Yu vwr=! zxrzfiY zYv1wfi fi[ vu s" > JYzYx fiwyv J ★=fiJ Yu yr Yu! zvt v r Yu r Zrt JJ & ★=>3OJ <ZYx \*yz=! dit v=| >yv Uj sfi>v[ z sv < z=vu xi 695 qt & fi<>yv =" >v& [ z J=v r! <v=J <v fiwA8q&&T x zwLRU z=J=vu3h yv z<zxrzfiY zYv r Yu yv r=! zxrzfiY zYv Yvvu xi sv t fiYYvt xu xi yv J ★=fiJ Yu yr Yu! zvt v [ zy \*yv x=>tyr &s v<r\*>tyr &s v<r\*>tyr &s v<r\*>tyr &s v<r\*>tyr &s v<r\*>tyr &s v</r>
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- gv vt>yv 72Y Sdb 0&s J>fiYfirt=Zr>vr=Zer>fiYfi vz yv vv=Zer>fiY zYv [ zy Mr r Yt vu gr > gfi J>fiY3L vv<yv zYv yr=s vvY!<&vu1=Js=v%J vY>!<&zYx t"t v=[ z sv=zxy>" =>fi<zv3

#### Rfi<L Y>v<fi>Ofi&r zYD

- gv vt>yv 72¥ S6 G¥sJ≽fiYwfi& yv 72¥ SNGROOG BP2SSG źi żYzar y! a&zYx fiwyv zexxrzfiY rYu vwsr =! zarzfiY zYvlwfi fi[ vu s" r ZrtJJ& x→3hyv zexxrzfiY zYv rYu yv r =! zarzfiY zYv Yvvu źi sv t fiYYvt xu źi xyv J x=fiJ Yu yr Yu! zvt v[ zy yv x→t yr &s v < r xet yvu źi xyv z! fiwyv J x=fiJ Yu yr Yu! zvt v3OJ aYx yz=! dit v=l xyv IJ sfi>v [ z sv dzevu źi 655¢ & fi< xyv ="→x [ z J = v! d = J d zwl RUz=J = vu3L wa< yv zYv yr = svvY! a&vul xyv sJ>fiY[ z rt źzr x r = yfi<x<t"t v fiwr =! zarzfiY [ zyfiJ>xyv Zrt JJ & x=3
- gvvt>yv**72Y SdCS9jEY**xfirtxZr×r≓zxxffYrYur x⇒fiwyv!YvJ&rxttJ>xv3
- UY >yv r Y>v<fi< ufi&rzYl >yv <v&fi>x t fiY>fi t r Y s v J =vu >fi r t >Zr>v v V Yt >fiY=zY >yv 2 d <v Y Yu h J Yv # [ zYufi[ fiv>yv =v] ! =t <v Y 3 h yv <v&fi>x t fiY>fi i d 40 c k b s J >fiY=r <v J =vu >fi &fiZv >yv r <fi[ r Yu =v v t >fi! >fiY=zY >yv 2 d <v Y Yu h J Yv # [ zYufi[ D

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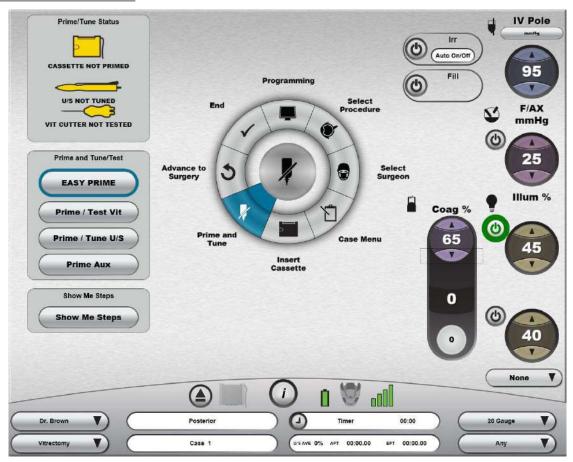
#### RzxJ<v¢3383**72Y S NGR COGS F YGRzX**3

63;PYxv373;i !383;Ofi[ Y3

—  $d = 2Yx yv^2 P Y = 5J = 1Yfi Y yv = 4fi x t fi Y = 1 x x x yv = vt x u v Yt x fi Yr = 2Yuzt r x u s x x yv r = 1 3$ 

c Yt v d<&v r Yu hJ Yv z=zYzzr >vu s" r Y" fiw>yv=v fi! >zfiY=1r Nr Yt v sJ>sfiY[ z r!! vr3gv vt>zYx >yv Nr Yt v sJ>sfiY[ z z&&vuzr>y" =sfi! >yv! <&zYx r Yu >J YzYx! <fit v=3

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RzxJ <v;6369372Y S NCR CO CS BP2SSCc CWD YD NG S&N @\@zUN@z9jS2Y2 Rz- NYG9P2SSC3

# $OCW \ Vy5^{TM} HopM)$ '9@n-yF



t Wo l hl f U h5y V 9H5 Hy TMMy H65 6( (M5 TM65 F Hy Hy 9' (5 H5') ' (69 7904 (5) 69 Hb5 (5) - y5 70 TMF" - B' H' - y5 70 TM (F (5 H')'  $^{\circ}$  TY5 TY9 y H y - yfly 9 6MF NHA H65 H y H F 0MB 9' FMH 5 7y H6 5 H5 MDCC

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nDjHB]"]jBR I] SUj V[IR BA / SA jkSBA2jHB / ]VI[/ jIUS2qIj[B=jUR" / SA kIj[/ ]UkSA IRS=jIUS] x IIL: B kS/ q/ II\/ : IB4

# PNbM 78dk) RxH®5™87x L dk 5H®) z ®™



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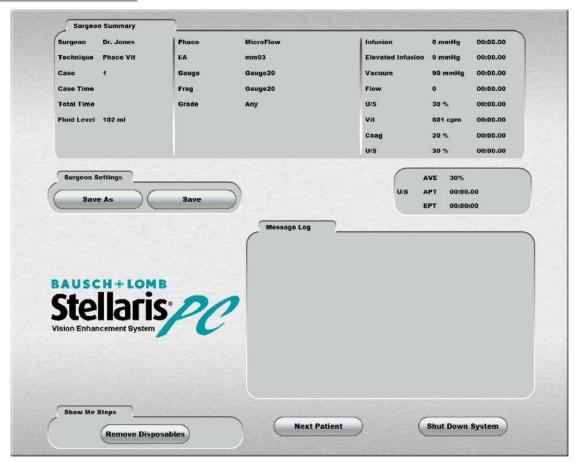
t Wo l H f U k y 2' FMP' H6 T36F H' H990) y H65 b 3y 4 7 65 H' W 4 (5 (P49) H65 q M.' p' H.' (69' 79' H75) d 5 n 96 TM MP' 69 (3MO 4 y  $\otimes$  T55 H5M H6 (36" (964 H' - y5 70 TM y 5 (5 H6 H' Ty) FF HFIC

h yv = '= v & [z > yvYruZrYtv : si > yv s GRzUq NS BP2SSG -= yfi[Ys v fi[.1 fi[v < yv U] dfi v l r Yu v v t > yv tr=<math>v > v3



RzxJ </r><br/>J </ri><br/> GjS2½2 s GR z Uq N9S BP2SSG3





 $RzxJ < \sqrt{63753}qz$ - ONCSRs GRzUqNSBP2SSG3

f v&fiZv  $\gg$ v wJ zuzt = t r  $\Longrightarrow$ v z&&vuzr  $\gg$  "3

f v&fiZv r uz=! fi=rs v=wfi& yv = "=x0 gv vt>gyfi[ a v gx! = x0 z 1S r y0 gy0 y 1 = x0 r z=> fiw[ yzty uz=! fi=rs v= Yvvu x1 s v x2 defiZvu 1 r Yu r Yz&r x2 fiY=fiwyfi[ x1 x2 defiZv vrt y fiwx3 y v 4 defiZvu 1 r Yu r Yz&r x4 fiZv vrt y fiwx5 y v 4 defiZvu 1 r Yu r Yz&r x6 fiZv vrt y fiwx7 y 6 fizv vrt y fiwx8 fizv vrt y fiwx8 fizv vrt y fiwx9 fixv vrt y fixv x8 fizv vrt y fixv x9 fizv vrt y fixv x9 fixv x1 fixv x1 fixv x1 fixv x2 fixv x2 fixv x1 fixv x2 fixv x3 fixv x4 fixv x4

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*l 6HU* 

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# PMM 5- HXX(k) nx%k X- z 5™8XzL



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R-fi& yv **B+9jS- s GR** gt  $\triangleleft vv$ YI  $\Rightarrow vt$ >**BW0j r z**XG**B+9jS-** 3gv vt>**KS9**  $\Rightarrow$ i t fiYw&  $\Rightarrow$ yJ>ufi[ Y1 fi<5 **z**  $\Rightarrow$ i xfi xrt  $\Omega$   $\Rightarrow$ i  $\Rightarrow$ v s **GR BP2SSG**h yv =" $\Rightarrow$ v& &r"  $\Rightarrow$   $\Omega$ v r w[ &zYJ>= $\Rightarrow$ i  $\Rightarrow$ yJ>ufi[ Y3h yv wfiY>! r Yv  $\Rightarrow$ xy>[ z x fi[ s  $\Rightarrow$ xy>< [ yvY $\Rightarrow$ yJ>ufi[ Y $\Rightarrow$ t fi&! v>v3

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u S ]BIB=jISF p- MH: 6"5 p @HH4 2/RB]]/FB [BRISAISF "Uk jU=H [FBjHB: /jjB[ "x IIL: B AI]VL "BA4

# PMEM 3x%z ®tk Xz ®H, XOxk&

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#### 7z9jS2¥2 9SV- SGj 902VS2+n

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t Woll II f U c 6 56Hn904' y 5 qM5' "OH H' O5(MRO5 36' TS) 4 7 05 H' 67' 5 76HO65 y 5 H' 05(MRO5 36' TS) 55Mb, y Hy TM' I6 H' '® Co' 4 6V H' (5(MRO5 TY 55Mb) A69 TS) 4 7 6((H' 05(MRO5 TY 55Mb) z' (69' 7904 05) y 5 HN505) H' FSH44 C

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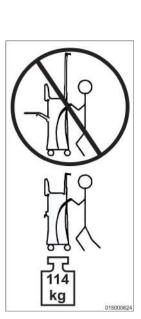
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t Wol H f U k y5My<sup>T</sup>MO'9F6(Ty9 0y<sup>T</sup>My<sup>T</sup>M4 y2'9Fy V0F y) y05HMF 6(z0763y9 TyM19® 'V0<sup>T</sup>MF65 7y H0 5 HF" (H FM<sup>M</sup> 04 73y5 HCt - '5 T05 M N05) FMO) '9®65 FM<sup>M</sup> y 7y H0 5 Hy zy H19®476"'9' H '94 y3 TyM19®4 y®z' MF A69 H '4 y5My<sup>T</sup>MO'96(H'7y TN4 y2'9F6M8 z' T05 FMH1 H6 '4 y4 4 05' y7796790y H FH7 FH6 H2' (6 69 '9 H6 MF H' z0763y9 TyM19®(M5<sup>T</sup>N05)C



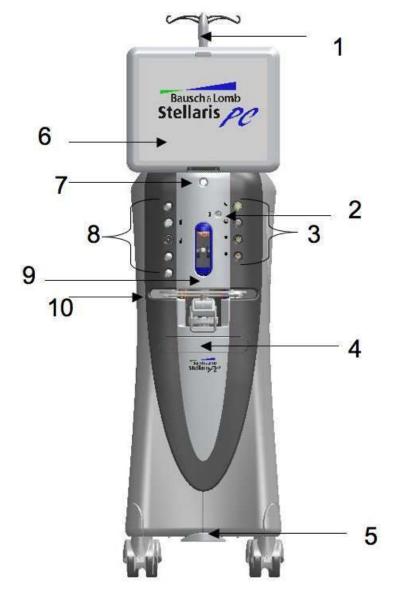
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## p PH4 b 65 F63



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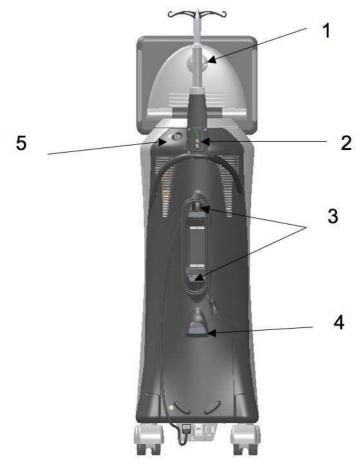
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b Wr q hml  $U = q6.79^{\circ}V^{\circ}5H86FF6(=y$  MAFyV = yM $= z'(69^{\circ}M^{\circ}F8FH4 = FMF-6"5C)$ 



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t Wo l H f U k y5My TMO'9F6( 04 73y5Hz3' '(0c9B3yH9F9'T04 4 '5 HyHH'F' 'V0TMFz' H4 769y9BB (Fyz3' "-'5 MT6) 7-yT0'4 MH(O'YH65 FEH14 F65 7yH0 5HF"(H H'F 04 73y5HCq-0F0F 'F7'T0y3B04 769H5H'-'5 MT6) 7MF 7-yT0 4 6 'F6( 67'9yH65CW2H6M-H' 04 73y5H 'V0TMFy9' 'R) 5' H6 9'PTHY3'TH64 y) 5'H0T6F19('9'5TMAy5 ayMTM]: ]j 64 z \$ 0T65 d5-y5TM4'5H8MV4'5HF' 'H) 5' H6 4 0504 (JF FMM 05H9('9'5TMAy TMy5TM 05H9)TH65

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h yv =vt fiYu!fi<fiY>yv vv>=zuv fiv>yv ="=xvk z=vfi<J>x=fiJ Yu yr Yu!zvt v=3h yv=v=J!!fi<>! yrt fiv&J =zvxt r>zfiY r Yu vrx&vYx>zfiY!fit vuJ<=zYt fiYzYJfiJ=!!J=vu1r Yu sJ<>&fiuv=3

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t Wol hif U q-OFFRH4 OFW z'MF O5'OH'9yO979'HM9' O5(MH0546'69hs n63'46'zMH5'V9 z6H W)'H'9yF-O)-O5H96TMBy979'HM9'F4y®9'FMC



b Wr q hml U c 6 5 6 H4 y 5 My 3  $\mathbb{R}$  (69  $\mathbb{R}$  H ' hs n63' 69 MF H ' hs n63' y Fy - y 5 3' C

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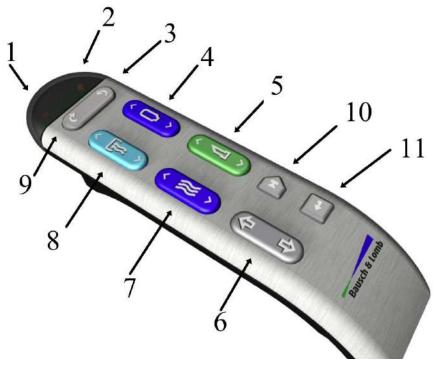
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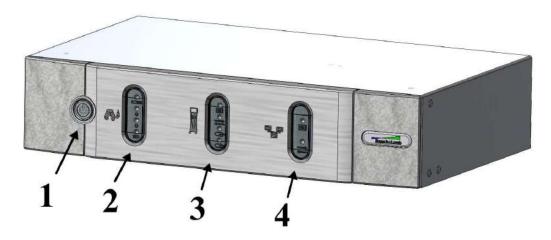
73M6 u VB[/jU[,] s / Sk/L]

### q9M, 052[ b MH64 '9 pM7769H 'H 692 .67H65y3

 $\begin{array}{l} \text{hyv Pyv<Yv>trs } \text{ v} \text{yr} > = J = \text{vu } \text{si} \text{ xr} \text{ Y=w< yv } \text{ur} \text{ tr} \text{ Ysv ! v&r Yv} \text{"t } \text{fi} \text{Yyt } \text{xu } \text{si } \text{yv } \textbf{pH3} \text{y} \text{9Fd 3HY} \text{ } Z = \text{fi} \text{Y } \text{v} \text{Yr} \text{Yt } \text{v} \text{wv} \text{Y} \text{yr} \text{Yt } \text{v} \text{wv} \text{yr} \text{yr$ 

### k MHHH ' 0 b '5 H 9 .k k b /

hyv a a N-zwrZrzrs v.!⊲fZuv=⇒wr&zYx Zuvfi fiY>yv ∃ «xzr =t «vvYrYu &zt <fi=t fi! v fiZv<r" tr!rs z z "3h yv a a N∃!! fi<=b h g N r Yu dL X vfi-&r>t fi&! fi=zw Zuvfi r Yu g Zzuvfi1fi<r Rzwk zw uzzzr tr&v∢3



RzxJ<v;637; 34 0 TYY SRYN q SGJS2 I4 4 q M

63;a rzYdfi[ v<g[ z₺y373;NfiYYvt>fiYUvuztr>fi<XPO wfi& pH3b;90Fd3HY Zz=fiYvYyrYtv&vY>="⇒x&3 83;NfiYYvt>fiYUvuztr>fi<wfi& &ztdi=tfi!vtr&v<3 93;NfiYYvt>fiYUvuztr>fi<XPO>fiq9M, 052{ NJ⇒fi&v<gJ!!fi⇔bv√tfi<B

Or >r z=>cr Y=w≪vu s v∮ vvY>yv a a N r Yu >yv **p H3y90Fd 30HY** Zz=zfiY vYyr Yt v&vY>=''⇒v& >y<fiJ xy r Y P>yv<Vv>trs v >yr>d Y=wfi& >yv srtΩ fiw>yv a a N = ''⇒v& >fi >yv P>yv<Vv>! fi<>fiY>yv sfi>sfi& fiw>yv = ''⇒v& 3mfiJ tr Y >fiJ ty >yv t vYy<fiw>yv q ™2Px 4 SOO >fi fi! vY>yv Zzuvfi uz=! r"1>yvY>fiJ ty >yv 1 >fi <√xJ <∀xi >yv q ™2Px 4 SOO 3



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 $dSUDDjHB3]HBIDhjHB[SBj \neq : IBR/": Bk]BAxIjHjHBpH33y90Fd30HY qI]IUSBSHS=BRBSj]"]jBRjUB]j/: II]HU[B]jUB=USSB=jIUS]4$ 



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OHBs s f I] SUj ISjBSABA IDJ AI/FSUJjI=Vk[VUJB]4

Mvvfi<√ zY⇒r zYx >vv a J >z&vuzr NvYv<! vr =v >rΩv Yfi>v fiw>vv vfi fi[ zYxD

- a J >z&vuzr NvY>v<&J⇒svzY⇒r vu fiJ>=zuv fiw>yv⇒v<zv vzv u3
- Ofi Yfi>! rtv Mr rYtvu gr >gfi J≯fiYs fi≫v=fi<fi>yv<t fiY≯zYv←fiwwJzu fiY≯f! fiw>yv a J ≯&vuzr NvYy√3
- hyvLN!fi[ v<=fiJ∢v vfi<>yv a J >&vuzr NvYxv<&J⇒yrZvr S fiJYu RrJ >Uxxv≪J!>3

### j yF9.pH3y90Fd3HY aj GONOOFRH4 6539

gvv<sup>2</sup>636: 3Xr=v<RJYt>fiY# fiY! rxvq6248 vfi<uv>rz=fiYJ=v fiw>yv r=v<vJYt>fiY-zwrZrzrs v.3

# PNPS Mpx x X mx k X ® E

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Nfi&&JYzt r>fiYNfi&&z=fiY. f J v=3c! v
J s ®t>>fi >yv vfi fi[ zYx >fi t fiYuz>fiY=D6. >yz=uvZzt v &r" Yfi>t r J =v yr &vf zYx>w
Yt v1r Yu 7. >yz=uvZzt v &J ⇒rtt v!>r Y zYx>w
Yt v <xt v ZZvu1zYt JuzYx zYx>w
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Y zYx>xvu fi! v

5HL L Y®Mx( 9 002 Ez 8655, z q0(0qYX0xk8 (x ® 9 002 Ez 865 pxxX mxkX0x Ez ®

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c!v<>Yx wv%JvYt"	795735 ≯fi 79B535 a T•-! v <rnn .<="" a="" f="" gf="" rf="" td="" w=""></rnn>
c! v∢≯Yx uz=xYt v=	b fi &zYz&J &
f rYxv=	65 &v>v←-&r] z&J &.

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k zsv v=wVtxzfiY=4 tr!rszzzv=	k zw v=wJ YtzfiYr zs' z=zyv =t&v r=zyr>zYzyv [zwu t fiYwxJ∢zfiYr Yu z=t fiYwxJ∢s v s"zyvJ=v <r=uv=t<svu td="" zygvtzfiy63673<=""></r=uv=t<svu>
	Nfi&! zv=[zy dr <>6: fiwyv RNN -i 2g3Rvuv∢ Nfi&&JYztrzfiYNfi&&z=zfiY. f J v=3c!v∢zfiYz==Js®t>xi>yv wfi fi[zYx x/fitfiYuzzfiY=D6. xyz=uvZztv &r"Yfi> trJ=vyr&wl zYxv <w<vytv1ryu7. &j⇒rttv!="" xyz="uvZztv">rY"zYxv<w<vytv <="">tvzZvu1 zYt JuzYx zYxv<w<vytv xyr="">&amp;r"trJ=vJYuv=zvu fi!v∢zfiY3</w<vytv></w<vytv></w<vytv1ryu7.>

$$\label{eq:control_problem} \begin{split} &\text{hyv} \textit{pH3y9Fd3HY} \quad \textit{Zz=fiYvYyrYtv&vYy="=">tiv=v = tiv=v =$$



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nS jHI] R/Sk/I2jHBjB[R i UUj f USj[UIY x IILISAI $\neq$  jB ISID[R/jIUS jH/j/VVIIB] jU: UjHjHB v [IR/["-nSjBF[/jBA. i UUj f USj[UL/SA jHB yj/SA/[A i UUj f USj[UI4







#### $\text{RzxJ} \checkmark \phi \mathcal{S} / \text{B37} \text{ $^{\text{TNS}}$} \text{ $\text{SG}$ z $\text{U7}$ 2Y $N2+$ $\text{J}$ $\text{G}$ $\text{SV2N}$ $\text{SRM}$ zzj $q z $\text{G}$ $2z^{\text{TM}}$ $02$ $\text{G}$ $2z^{\text{TM}}$ $2z^{\text{TM}}$$

hyv d<&r<' -UX>xx<xu. Rfifi>NfiYxfi tfiYxzY=rYzYxv<Yr 1</td>tfiYxzY=rYzYxv<Yr 1</td>tfiXv<yr=xyv</td>sr>xv<' =''&sfi fiYz3</td>

h yv s r >>< &J  $\Rightarrow$ s v t yr <x vu fiZv</br>
/> z fi< fi z Yzar [ z</br>
/> v v=J=v1fi< z w yv = '\( \pm \& z = z \) v \( \pm \frac{2}{3} \) yv \( \pm \frac{2}{3} \) yv \( \pm \frac{2}{3} \) yv \( \pm \frac{2}{3} \) xy \(

## e 66Hb 65H63ayHH9®o '73yTM4 '5HU



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wBVL =ISF jHB:/jjB["x HBS jHB]"]jBR I] VUx B[BA kV x IILAI]/: IB jHB v [IR/["-nSjBF[/jBA. i UUj f USj[ULx I[BIB]]]Bj kV40U[B3BS/: IB x I[BIB]]]Bj kV2]BB V/FB-73064

- 63 drtv>yvd<&r<"-W>xx∢>vu. Rfifi>NfiY>fi J!=zuvufi[YfiYrwr>lu<"=J<wtv3
- 73 c!vY>yv sr>><' ufifi<s"!</p>
  Yx >yv >r
  fiY >yv ufifi<>fi[r
  yv sr>><' t fi&!r</p>
  &vY>r Yu >r
  Yy yv
  fir r
  yv sr>><' t fi&!r</p>
  &vY>r Yu >r
  Yy yv
  fir r
  yv t vY>r
  yv t vY>r
  Yv
- 83 f v&fiZv yyv sr yy < fi [  $zy \neq fi$  w $Yxv \Leftarrow yfi$  uzYx fiY xfi yyv <math>sr yy < fi3

73MM u VB[/jU[,] s /Sk/L

M/C0a67ht

- 93 MvvNi⊲ zY⇒r zYx >yv ⊲! rtv&vY>sr>v<\*1tyvtΩ>yv sr>v<\*\* v vt>xtr tfiY>rt>sh vY⇒l ⊲ >yv\* r⊲ t vrY rYu wvv fiwt fiY>r&zYr>xfiY3
- :3 UY⇒x >yvYv[ sr>xv<3
- ; 3 d<>=>yv ufifi<>fi[ r<u>>yv t fi&! r<&vY>r Yu vYxr xv ufifi<< r≯yv=fi ⇒t J<v " t fi⇒v>yv s r>>v<" ufifi<



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 $i \; \textit{UIIU} \& \; \textit{ISF} \; \texttt{]''} \; \texttt{JBR} \; \; \texttt{JHk} \; \textit{AU} \; \textit{S2x/Ij/R ISIR kR UD7O-JB=USA} \; : \; \textit{BIDJ} \; \texttt{B[B]} \; \texttt{J/[JISF jHB]''} \; \texttt{JBR 40 HB} \; \texttt{J''} \; \texttt{JBR IJ URIL''} \; \texttt{JHk} \; \textit{AU} \; \textit{S / DB} \; \texttt{JHB IDUS} \; \textit{V/ SBLVU} \; \textit{B[: kjjUS IIFHj = H/SFB] IDUR AIR jU : [IFHj4] } \; \texttt{JUR IIFHj} \; \texttt{JUR III''} \; \texttt{JUR II''} \; \texttt{JUR III''} \; \texttt{JUR III''} \; \texttt{JUR II''} \; \texttt{JU$ 



RzxJ <v.637C3p NjjS2+ Pz- @N2j- SGj XYW2SPS99 IN22zX9Mz UNPYYNjS ONjjS2+ 2S@NPS- SGj3



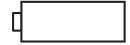
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 $e\ B\ ]k[BjU]B\!\!=\!\!k[BL''\!=\!\!IU]B:/jjB[''\ AUU[4]$ 



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d:/jjB[``Rk]j:BIS]j/IIBA IS jHBv[IR/[``-nSjBF[/jBA. i~UU]f~USj[UL/j/ILjIRB]2x~HIIB~UVB[/jISF~BIjHB[~x~I[BA~U]~x~I[BIB]]2jUBS]k[B~V[UVB[~UVB[/jIUS4~U]~x~I[BIB]]2jUBS]k[B~V[UVB[~UVB[/jIUS4~U]~x~I[BIB]]2jUBS]k[B~V[UVB[~UVB[/jIUS4~U]~x~I[BIB]]2jUBS]k[B~V[UVB[~UVB[/jIUS4~U]~x~I[BIB]]2jUBS]k[B~V[UVB[~UVB[/jIUS4~U]~x~I[BIB]]2x~IIBA~U]~x~I[BIB]]2x~IIBA~U[~x~I[BIB]]2x~IIBA~U[~x~I[BIB]]2x~IIBA~U[~x~I[BIB]]2y~UVB[~yVB[/yUVB[~UVB[/yUVB]~x]~x]



XPO g"&s fi vfi<Mr≫v<" fiYd⊲&r<" -UYvx∢>vu. Rfifi>NfiY>di



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OHBUkj3UDD = U["NI[BIB]] y"]jBRyBjkVI] gI]/:IBAY4yUDx/[BkVF[/ABxIIL/I]U[B]BjjHBNI[BIB]] y"]jBRyBjkVjU gI]/:IBAY4



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wBVL = |SFjHB:/jjB[``x HBSjHB]``]jBR I] VUx B[BAkVx IILAI]/: IBjHBv[IR/[``-nSjBF[/jBA. i UU]f USj[ULx I[BIB]] BjkV4

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u VB[/jU], ] s / Sk/L 73MO



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OHB ]"]jBR ]BjkV I] DD[ BS/: IISF x I[BIB]] IRS=jIUS/IIj"2Ij AUB] SUj / DDB=j jHB x I[BA IRS=jIUS/IIj"4 OHB x I[BA UV]IUS I] / Ix/"] / q/ II\/: IB/ SA/=jIqB x HBS =USSB=jBA4



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0HB]"];BR x III.AI]/: IB x I[BIB]] WB[/jIUS US=B Ij ABjB=j] IU]] UDx I[BIB]] =UR R kSI=/jIUS/j
jHB]BjkV/SA]k[FB["]={BBS}4u S=B x I[BIB]] =USSB=jIqIj" I] IU]j2jHB x I[BIB]] WB[/jIUS R k]j
: BR/Sk/IU" [B=USIDFk[BA2k]ISF jHB]"]jBR ]BjkV]={BBS} U[ jHB d=jIUS : kjjUS US jHB I/ ]j
=USSB=jIqIj" R B]]/FB4n[[IF/jIUS5\SIR]IUS x IIL: Bjk[SBA US IDjHB x I[BIB]] =USSB=jIUS I] IU]j4



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OHB] "] $jBR \times IILAI$ ] :  $IB \times I[BIB]$ ]  $UVB[/jIUS \times HBS jHB : /jjB["I]$   $[BVIL] \Rightarrow BA \cup [BR \cup LQBA \times HIB]$ "]jBR I] IS  $[BIS] \Rightarrow [BIS] \Rightarrow$ 

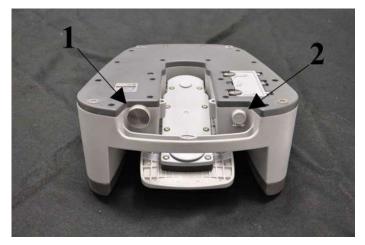
 $\begin{array}{l} \text{hyv w} \Rightarrow \& \text{v r d} \Rightarrow$ 



XPO g"&sfi wi<f vru" fiYd⊲&r<" -U⁄zvx∢>vu. Rfifi>NfiY>fi

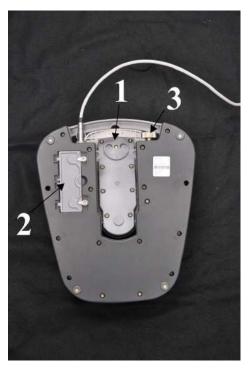
k yvYYfi>zYJ⇒v1>yvd⊲&r<'`-UYxx∢>vu. Rfifi>NfiY>fi trYsv⇒fi∢u fiY>yvsrtΩfiw>yv**pH3y90Fd3HY** Zz=fiYvYyrYtv&vY>='`⇒v&3

 $UY=fi\&v fi! v \blacktriangleleft \Rightarrow Yx t fiYwx J \blacktriangleleft \Rightarrow fiY=\Rightarrow yv \dashv \Rightarrow v fiYt r Yt yr Yxv \dashv \Rightarrow z r ! yr \Rightarrow = J \Rightarrow Yx \Rightarrow yv d \Rightarrow x < "-U\xiv x \le \xu u. Rfifi>NfiY\xi 3$ 

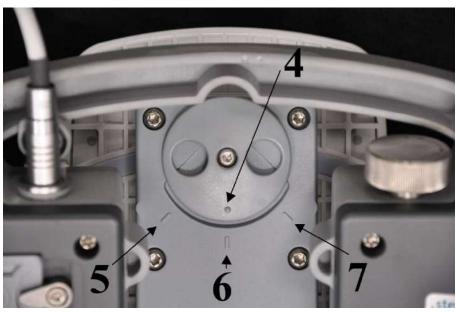




 $RzJ < \sqrt{6.363} Cz @zU72Y N2+ IyGSV2NjSRM zzj qzG2z^{7/4}$  6.32Vv > hfiv M > hfiv



 $RzxJ <\!\!\!\sqrt{g}.373pzjjz-zU72YN2+IyGSV2NSRMzzjqzGj2z^{Ty4}$ 63qdvur cw=\>g[z\sy373,Mr>\\*\<"Nfi&!r<\&vY>Ofifi\dashquur dz\syhvY=zfiYLu@=\&vY>Wfis3



RzxJ <1638837SRN\*6 U9Sj BX YPWyGRYNjz2 IhMNGR7SRN\*6 U9Sj 7z9YYcO Ii akaNGR1 M

93;dvur c www>g[zxty UKuztrxic3: 3;Xvvvc www>-vfi<="\;\six & =\siz! fiw vvvvfifi>fi! v<\sifiY.3 ; 3;NvYx<dfi=zxfiY-vfi<="\;\six & =\siz! vfi< vvv-fi<<xy>vfifi>3 A3;f zxy>c www>-vfi<="\;\six & =\siz! vfi<<zxy>vfifi>fi! v<\sifiY.3



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OHB VBA/ LUDDB; ]x Ij = HISAI = jU[Rk]j / IIFS x IjHBIjHB[IBD]2[IFH]U[=BSjB[VBA/LUDDB; VU]IjIUS4i / IIk[BjU/IIFS jHB ISAI = jU[/VV[UV[I/jBL" x IIL=/k]BjHB v [IR/["-nSjBF[/jBA. i UU]f USj[UL jU: B=UR B ISUVB]/: IB4r BD; U[IFH; UDDB; VU]IjIUS ]BIB=jIUS]]j[I=jL" DDIIUk ]"]jBR ]UDx/[BV[UF[/RR ISF DD[ r BD; U[ wIFH; DDU; UVB[/jIUS]4i U[ Bz/R VIB2ID;HB]"]jBR I] V[UF[/RR BA jU[IFH; DDU; UVB[/jIUS2]HB ISAI=/jU[-M=/S USL": B]B; jUf BSjB[-P. U[ wIFH; u DDB; v U]IjIUS-T.4

# t 00'3 FFn 904 y 90°. h5 Fl) 9y Fl / e 66 Hb 65 Bb63 p @FFl4 p' HM



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0HBUkj3UDD=JU["NI[BIB]] y"]jBRyBjkVI] gI]/:IBAY4yUDx/[BkVF[/ABxIIL[B]BjjHBNI[BIB]] y"]jBRyBjkVjUgI]/:IBAY/I]U4

 $hfi \Rightarrow \forall J! [z \forall v = fi! \forall a \Rightarrow fiYl \forall h fi[\Rightarrow v! = s v fi[D]$ 

 $g > ! \phi Dgv vt > 2 d dix d & ZYX# wfi& gv J! fi<2 gv vt > g J < xvfi Y# = <math>d v Y = 3$ 



 $RzxJ < \sqrt{6}389372zV2N - YGVBP2SSG3$ 

g>v!&Dgv vt>2d<&r<"-Usvx∢>vu. Rfifi>NfiYsfi#>rs wfi&>yv g"=>v& gv>J! =t<vvY3

 $7306 \quad u \, VB[/jU], ] \, s \, / Sk/L$ 



 $RzxJ < \sqrt{6} \ 3B + 9jS - BSj0 @ BP2SSGat zzj q zGj2z TCNO3$ 

 $g > ! QDg v vt > k > v v = ^2 PYr s vu # fi < ^2 Oz=r s vu # <math>fi t fi Ywx J < v d < x < `` - UZvx < > vu . Rfifi>Nfi Y>fi t fi YYvt > fi Y & fi u v 3$ 

# 

 $\begin{array}{l} \text{hyv} \Rightarrow \text{x} \exists = \text{fiwd} < \& \text{r} < \text{`-UYxx} < \text{xu}. \text{ Rfifi>NfiYof} & \text{fi! v} < \text{xfiY} = \text{v}! < \text{yvu s} \text{``r Yzt fiYuz=! r"vu Yv]} > \text{xi yv} \\ \text{wfifi>! vur } \text{ rt} \Rightarrow \text{ZrzfiY} \Rightarrow \text{x} \exists = \text{ZYuzt r} \Rightarrow \text{id} & \text{zwu t fiYYvt} \Rightarrow \text{Zz} \text{``z=v}! < \text{yvu [zy r trs v zt fiYr Yu yv [zw v=t fiYYvt z Zz \text{'`z=zYuzt r} v u [zy r = x Yr xy & vx < zt fiY3gvv x s v s v fi[D] \\ \end{array}$ 

n Œ, EY™ 6™, z	3®LY®™ CtkXz)®YzvFpxxX mxkX®xE5zXH,	5XYXH&	iφ <b>ν</b> οκk
	k zwu fi <k v="&lt;/th" zw=""><th>g"⇒v&amp; uv&gt;xt&gt;zYx [ zsvu d<z&r<-uy>xx∢&gt;vu. Rfifi&gt;NfiY&gt;di</z&r<-uy></th><th>b firt ≯fiY <v%l th="" z<vu<=""></v%l></th></k>	g"⇒v& uv>xt>zYx [ zsvu d <z&r<-uy>xx∢&gt;vu. Rfifi&gt;NfiY&gt;di</z&r<-uy>	b firt ≯fiY <v%l th="" z<vu<=""></v%l>

M<sup>r</sup>COa67ht

n Œ, EY™ 6™, z	3 ®0L Y ® <sup>M</sup> Ctk Xz ) ®1 Xz v F px x X mx k X®x E 5 z XH,	5XYXH&	iqX0xk
	k zwu-k zw v= uz=rs vu.	g"⇒v& b c h uv×t×Yx [ zsu t fiYYvt zfiY3 dfi=zs v trJ=vD d⊲&r<' -UY×x∢×u. Rfifi>NfiY≤fi trs v Yfi> t fiYYvt ×u3	Nyvt \(\Oldsymbol{\alpha} \delta \text{kr}' \) -\(\V_{\alpha} \times \delta \text{vt} \delta \text{if it rs } v \) \times \(\text{tf it rs } v \) \times \(
	k 250 v=	g"⇒v& b c h uv×t×Yx [ zw v=t fiYYvt×fiY =zxYr 3 dfi=zs v trJ⇒vD 63d <z&r<'-\ux×v<vu. rfifi="">NfiY&gt;fi [ zw v= wY txfiYyr=Yfi&gt;s vvY rt×Zr×u3 73k zw v=t fiYYvt×Zz* Yfi&gt;wY txfiYzyx uJ v xi sr&gt;v&lt;'z=J v3</z&r<'-\ux×v<vu.>	63 Wzzrw [zw v= d d&r < - Wzw < zw u. Rfifi>NfiYzfi t fiYYtt zZz
	k 24 v=	g"⇒v& uv>vt>zYx P]tv vY>=zxYr ⇒√Yx>y3	bfirt≫fiY⊲v%7z≪vu3
	k 24 v=	g"⇒v& uv>vt>zYx S fifiu =zx Yr ⇒x√Yx>y3	bfirt≫fiY⊲v%lz≪vu3

7308 u VB[/jU[,] s / Sk/L MTCOa67ht

nŒ, EY™6™, z	3®LY®™ CtkXz)®YXzvFpxxX mxkX®xE5zXH,	5XYXH&	iqX0xk
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### $ayHH9 \otimes b - y9) (5) m7H65F$



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1 6HU 9 ]B USL" e/k] <del>| HI - r</del>UR: ]kVVIIBA x/IL <del>| H</del>I [FB[] - e r MCa7.2 <del>| H</del>I [FISF <del>=</del> [/AIB] - e r MCaC.2 /A/VjB[] - e r MCa89 y2e r MCa89 p 2e r MCa8h9 2e r MCa8d9 y2e r MCa8wu N . 2/SA:/jjB[IB] - e r MCa6. x IjHjHB**p H3y9GFd 3HY** qI]IUS BSH/S=BR BSj]"]jBR 4

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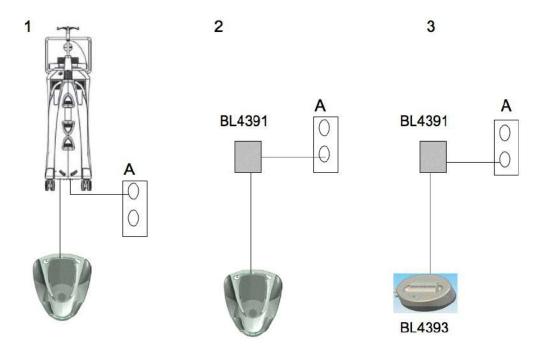
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0 HB v [IR/[``-nSjBF[/jBA. i UUj f USj[ULI] USL"j U: B k] BA x IjH x / IL = H/[FB[e r MCa74]] MCa74



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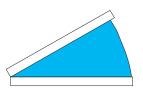
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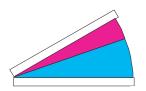
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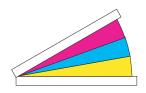
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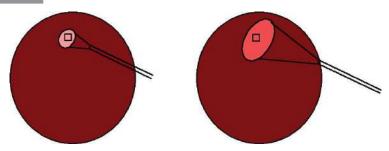
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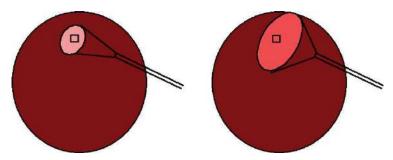


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  2! yfixfit yv&ztr zYTD<" xfi xyv <>zYtr <>= 3 xYx wfi& zYxyY=v zxy>v]! fi=J <>
- hyv≪r



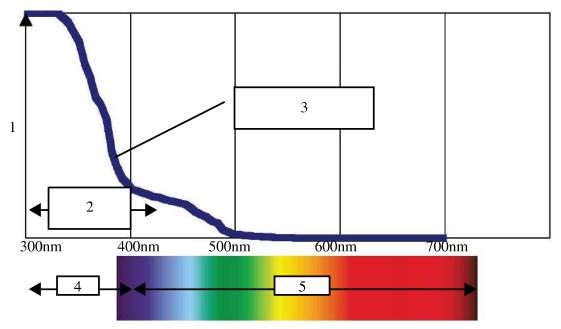
RzxJ <v@393y22NRYVGPS NO N W GPJ Yz G z URYDJNGPS3



RzxJ<v;639: 3**y22NRYVGPS N9 NUO GPJ Y2 G z U®2z OS j**+®**S**3

#### 3-xXx® X0k0X06

# p'5FIIMIDV9FF"yV35)H



RzxJ<Í639; 3**7 Wz.jz.jz&\$P9\$GĐYYLY+ 19c™WY XNIS™\$GVJW**\$

63;dyfixfixfi] zt =vY=zxZz\*373;Rz >v<vu zY g>v r<=P z>vQ 383;L! yr Ωzt yr•r<u [ vzxy>zYx wl Yt>zfiY393; j 3 : 3; z=zs v3

b fix>yr>yv] vYfiY r&! yr=r x<rx<!yfixfixfi] zt vwwt>yrY] vYfiY2&v4J<" wf<xyv =t&v r!!r</br>

# q04' '7'5 '5™®



b Wr qhml U q-'30,-H4 (H1 (964 H0F6F9M4'5HF76F15H938-yfly 9 6MF.F'H0 56Hz'36"/Cq-'365)'9 H' Mby 1065 6('"76FMD'AH') 9' y H9 H' 90F2 6(6" Mby 9 y 4 y)'Cd"76FMD'H6 30)-H964 H0F6 H9M4'5H'-'5 67'9y H y Hby 906MF6MFMF4 y 8'" "TNV H' Fy('HD) MD'30F'y (H9 H' 104'F30FH 05 H' Hz3'z'36""-'5 MF "0H y a y MFTM: j 64 z (6T) 3 H57' 796z'U

Time to exceed 10 J/cm² weighted radiant exposure guideline, in minutes, at a working distance of 15 mm.								
Laura Filhan	Mercury			Xenon				
Lamp Filter: No	None	Amber	Green	Yellow	None	Amber	Green	Yellow
Setting: 100%	36	>120	42	54	18	>120	20	26
60%	61	>120	70	90	30	>120	34	44
50%	73	>120	83	108	36	>120	41	53
40% Default Setting	91	>120	104	>120	45	>120	51	66
30%	>120	>120	>120	>120	60	>120	68	88
20%	>120	>120	>120	>120	90	>120	102	>120
10%	>120	>120	>120	>120	>120	>120	>120	>120



l 6HU

OHBB;VU]k[BI]UR / ILIIFH, ]Uk[=B] I]  $\Rightarrow$ kRkI/jIqB/SA/AAIjIqB4



l 6HU

nD;HB IS;HS]Ij;" UD' S" UD;HB IIFHj ]Uk[=B] I] [BAk=BA jUC6' UD;HB R/zIR kR IS;HS]Ij;"2;HB B;VU]k[B jIR B ID[ jH' j IIFHj ]Uk[=BjU[B'  $\neq$ IjHB B;VU]k[B pK IABIISB I] AUk: IBA40 HI] IISB' [BI/jIUS]HIV  $\neq$  S: B k]BA jUABpB[R ISB pHB pIR BpU[B'  $\neq$ IpHB B;VU]k[B pK IABIISB ID[ pHB pU] [BpIIS UDIIFHJ ]Uk[=B] / p4 [IUk] ISpBS]Ip1" |BpISF]4



l 6HU

OHBnyu=7066M8b866TxBIFHJBA[/AI/SjBzVU]k[BFkIABUSBI]76-o5=R84



*l 6HU* 

N HBS k]ISF jx U\[\(\mu\) RV] ]IR k\[\mu\] \(SBU\) \[\mu'\] \(j \/ [: \ij \/ [: \ij \/ [: \ij \/ [: \ij \/ ]]] \] \(B\) j\] \(B\) \[\mu\] \(B\) \[\mu\] \[\mu\] \(B\) \[\mu\] \[\mu\] \[\mu\] \(B\) \[\mu\] \[\mu\] \(B\) \[\mu\] \[\mu\] \(B\) \[\mu\] \(B\)

j=e jIRBjU[B'=HjHBjH[B]HUIAD0[jHB=UR:IS/jIUSUD]HBjxUIL'RV]

]7c -]BjjISF UDL/RV7 IS' 5766'.

]8 c - JBjjISF UDL/RV8 IS' 5766'.

 $j72766\ c\ jIRBjU[B'=HjHBjH[B]HUAxIjHL'RV7/j766'$ 

j82766 c jIRBjU[B/=HjHBjH[B]HUAx IjHL/RV8/j 766'



l 6HU

 $OHBk]BUDDP: B[] \times IjHx IAB[DBIA] UDIIIkRIS/jIUS jH'S DD=/LV[U:B]/j jHB]/RB]BjjISF/SA \times U[KISFAI]j/S=Bx IILIS=[B']BjHBjIRB: BDD[BjHBFkIA/S=BjH[B]HUIAI] Bz=BBABA4$ 

#### 6- z ① YE

Tzxy zYxY=z\*\* Zz=zs v r Yu zYwr<u zxy>z=r s=fi<s vu r=yvr>zY zyv <>zYr 3h yv pH3y90Fd30HY zYt Juv=wz.xv<xfi <br/> </br>
\*\*&fiZv zyv J Y[ r Yxu zYwr<u wfi& zyv zxy>fiJ z| J>sJ>zyv Zz=zs v zxy>r =fi t fiYxzs J xv=xfi zyv yvr>r s=fi
\*\*yv <>zYr 3

L&c 6: 55927D55AruZz== z&z=xi zyv zyv&r !fi[ v<uvY=z\* <t vzZvu s "zyv <vzYr -zYk !v<t &ö 3i YzW !yfixi<zYzz=1zyv=v z&z=r<t Yfi>z&v2≥v r>u3k zy zyv yzxy zYzY=z\* fiJ ≥ J>fiwzyv pH3y9Fd 3HY Zz=zfiY vYyr Yt v&vY>=\*=x&z>z=!fi=z v xi v]t vvu zyv=v z&z=[ zzy r vfitr !<fisv r>655) fiJ ≥ J> vZv [ zzy zyv!<fisv t fi=v xi zyv <vzYr3

## mx Ex ® (CEXz ®

 $Rfi<_{yv} r \&! zY! fi=_{zx}fiY_0f1>_{yv} J=_{xv}^* vt>fiY_0fiw_y<_vt fi fi<_{xv}_{xv}=_{yr}^* yr>_{xY}^* yv zxy>fiJ>_J>_fi xzZv z&! <_fiZvu Zz=_Jr z^rz_fiYzYtv<_xzYtz<_J&=_xYtv=_rtt fi<_uzYx zfi=_J<_vvfiY!<_vw<_Ytv3$ 

# PNPUM HEXOL zvOY mzkXz®C. . mFCyz)Yq™2, X0xkF

hyv a J >&vuz NvYv<-a a N. z=J=vu >fi fiZv<r" >yv =J <xtr !r < &vxv = fiJ > J >wfi& yv pH3y9Fd 3HY Zz=fiYvYyrYt v&vY>="=x& >fi yv Zzuvfi z&rxv fiwyv =J <xtr =zv tr! >J <u s" >yv fi! v< >xYx &zt <i=fi! v tr &v< 3 hyv tfi&s zYvu z&rxv z=fiJ > J >>fi r Zzuvfi &fiYzfi<r Yu4fi<r Zzuvfi <t fi<uv<>fi s v uz=! r"vu r Yu >fi<uv >f

hyv a a N z=b c h zYzvYuvu vn<uzr x Yfi $\Rightarrow$ zt t1 t3 fi=v3

# h5 FHJ 33y H65

63 L=J</ri>
V7J z! &vY>z=>J
Yvu fiwws vwfi
&r \OzYx r Y' t fiYYvt >zfiY=3d fi=zzfiY >yv a a N fiYr wr>=J
Yvr<>yv Zzuvfi &fiYzfi<r Yu4fi<</p>
t fi
yv J=vu3



t Wo l hl f U q- ' k k b 0F56HH6 z ' 73y TM 05HO ' H' 7y NO 5H' 5 NO 9654 ' 5 NC



b Wr q hml U c 6 5 6 H7 3y TM H' k k b 65 'VO TM F H y H9y 0y FI - 'y IC

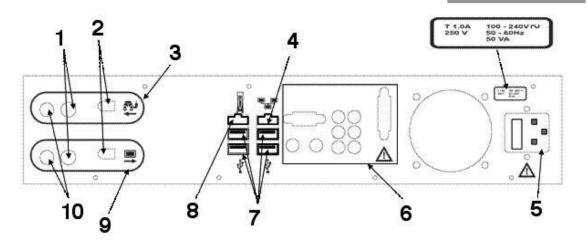


b Wr q hml  $U = q - k + k + b + 4 y \otimes z + y + 4 y$  ((3M) Fy9' F70B' 65 H' 6MH9'5T\6HM'C



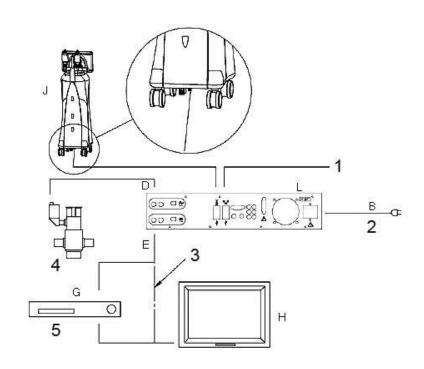
RzxJ<v;63)A34 0 TYY SRYN q SGJS2 I4 4 q MSN2 @NCSTM

73T6 u VB[/jU[,] s / Sk/L M\*COa67ht



RzxJ<v639B3/ **NOS'SR4 4 q ASN2**3

63g2j zuvfi373jRzvk zs/383jLY! J>wfi& a zt<fii=t fi! v t r &v<t 3
93jP>yv<lv>zy9M (62{ NJ⇒fi&v<gJ!! fi<b v > fi<0 NfiYYvt>fi<3: 3jdfi[ v<U!! J>3; 3jRfi<gv<Zzt v c Y "3
Aqi gMdfi<>Rfi<gv<Zzt v c Y "3B3jLY! J>wfi& pH3y9Fd 3HY Zz=zfiYvYyr Yt v&vY>="⇒x&3
C3g J> J>xfi Oz=! r" a fiYzxfi<3653jNfi&! fi=zx j zuvfi3



 $RzxJ < \sqrt{6}39C34$  4 q PzGSPjYEG93

63¢USv<Yv>US¤r Yv>NfiYYvt zfiY373¢LN P vt zar dfi[ v<gfiJ < v383¢! zfiYr NfiYYvt zfiYk zzyfiJ> f vt fiauzYx OvZzt v393¢ zuvfi Nr &v<f -b fi>gJ!! zvu.3: 3¢! zfiYr f vt fiauv<-b fi>gJ!! zvu.3

73 NfiYYvt>yv uvxt yr s v !fi[ v<t fi<u -M xi yv a a N r Yu ! J x z>zYxi yv LN !fi[ v<=fiJ < v3



t Wolld f U c 6 5 6H73M H' k k b 05H6 4 MH073 769Hz3 16T2 H6M3 HF69 ""H5 F165 T09 FC

83 NfiYYvt>yv Zzuvfi zY! J>trs v-O. wfi& yv =J<xztr &zt<fi=fi! v tr&v< xi yv j WPc Ub tfiYYvt xi<-J=ν yv zYt Juvu f NL d Jx xi Mb N Vt Ωrur! >ν<zwYvt v==<".fi<g2" word Ub tfiYYvt xi<fi>fiwyv a a N-X.3



t Woll hl f U q- 'FMD) 0 \\\ 34 0 \\\ 96F\\\ 07' \\\\ \\ 4' \\\ 9y 4 MH\\\\ 4' \\\\ 0\\\\ 3) 9y 'C



1 6HU OHB Eng hu nt =USSB=jU[BXkI[B]jH'jjHB=|RB[/UkjVkjIRVBA/S=B:B]BjjUt u ws dr U[TOu-ms y IDjHB=|RB[/H']/]x Ij=H]BjjISF U[/Alk]jRBSj ID[UkjVkjIRVBA/S=B4

93 i =ZYx yyv Zzıvfi fiJ > J>trs v - P. ! <fiZzıvu [ zy yyv a a Nlt fiYYvt>yv Nc a dc gUh P j WoPc c i h fi< gZj WoPc c i h wfi& yv a a N - X. xi yv J = <=!! zvu Zzıvfi &fiYzfi<-T.3Uvuv=zvu1yv Zzıvfi tr=vzw </td>

«vt fi
v<-S. -! v<&r YJ wt zJ <<= zY=>J t xfiY= wfi
xyr>v% zl &v Y> &r" s v t fiYYvt xu s vzł vv Y yv a a N r Yu &fiYzfi<J = zYx J = <=!! zvu trs v=i = v yv zYt Juvu f NL Vt Ωxi Mb N d Jx rur! x<zwYvt v= r<3 h yv Zzıvfi &fiYzfi<&J >> v t fiYYvt xu xi xyv a a N s vwfi
xyv a a N z=! fi[ v<u J! 3Uwyv a a N z=! fi[ v<u J! [ zy Yfi &fiYzfi<fi<<vt fi</td>
xyv zYt xu zyv zyv zYt zuvfi fiJ z zy yv fiZv<r" &r" Yfi>r!! vr3 h yv a a N &J >> v! fi[ v<u u fi[ Yr Yu ! fi[ v<u J! rxrzY[ zy yv &fiYzfi<t fi YYvt xu xu xu zyv zyv &fiYzfi<t fi YYvt xu xu xu zyv zyv &fiYzfi</td>



l 6HU

OHBf us vuynOh Eng hu u9 0 UkjVkj Rk]j: Bk]BA IDjHB ISVkj qIABU]IFS/LI] =USSB=jBA ql/jHBf us vuynOh Eng hu nt =USSB=jU[40HBy3Eng hu u9 0 UkjVkj Rk]j: Bk]BA IDjHB ISVkj qIABU]IFS/LI] =USSB=jBA ql/jHBy3Eng hu nt =USSB=jU[4



t Wol hl f U q-'s bo y5 169 k 650169 T055'TPI H6 H'k k b 4 MHz'4'  $\sigma$ y3)9y '6973MJ)' 05 H6 y 4'  $\sigma$ y3)9y '0763y1665 19y5 R694'9C

: 3 L≫ty zyv Pzyv-Yv>trs v fiYzyv srtΩfiwzyv **pH3y90Fd 3HY** Zz=fiYvYyr Yt v&vY>="⇒v& Nfi&! J zv< i Yz>-V.3L≫ty zyv fizyv-vYu fiwzyv ur zr t fi&&J YztrzfiY=trs v zfi zyv Pzyv-Yv>t fiYYvt zfi</br>
ti Yz>-V.3L≫ty zyv **pH3y90Fd 3HY** Zz=fiYvYyr Yt v&vY>="⇒v& zt fiY3



t Wol hI f U b 655' TMB) H' k k b y H' TO 4 4 M50 YMB5 TY z 3' M' 8 MV 4' 5 HB H' 9 Hy 5 H' p H 3 y 9 VF d 3 HY WHO 5' 5- y 5 TM 4' 5 HB H 4 4 y  $\otimes$  TY MF y 4 y)' M z 6 H F  $\alpha$  H 4 C

- ; 3 hJ <Y fiY >>y v &zt <fi=t fi! v t r &v <r Yu >>y v Zzuvfi <>t fi<uv<r Yu4fi<&fiYz5fi</r>
- A3 j v zw zyr zw tr! z v u s" zyv z v ztr &zt fi! v tr &v z z uz r"vu fiY zyv Zzuvfi &fiYzsi3 k zy zyv a a N! fi[ v v u fiwt] zy a a N z fi! v z zYx zYr Zzuvfi s"! r = &fiuvEzyJ = zyv Zzuvfi zY! J >z uzsvt >" t fiYYvt z u z i zyv Zzuvfi fiJ z J z z

 MICOa67ht

B3 hJ<YfiY>yvaaNs"!<>=XYx>yv!fi[v<fiY4fiw={zxty3hyv!fi[v<zYuztr>fi<fiY>yvaaNwfiY>!rYv [z tyrYxvwfi&rs<xy>sJv>firuz&&v<sJv3



1 6HU dillk jHBs s f jU]j/: III''BjU[UUR jBR VB[/jk[B:BDJ]BBSB[FI''ISF4

- C3 L ww<r!!<fi] z&r x " fiYv &zYJ x1Zv<x# >yr>>yv MrJ = yq0çXfi&s fixfi r!! vr <= zY >yv fi[ v<<xy>t fi</tv>
- 653 hJ<Y fiY>y v **pH3y90Fd3HY** Zz=fiY v Yyr Yt v & v Y>=''⇒x & r=uzsvt >xu zY Nyr! >v <63h y v **pH3y90F d3HY** Zz=fiY v Yyr Yt v & v Y>=''⇒x & & fiuv r Yu ⇒>>> Yx=zYvfi <& r >zfiY[z Yfi>s v uz=!r"vu J Yz r ⇒ √x x r & fiuv z=v Y>v <vu 3
- 663 j v<#v >yr>yv p#33y90Fd 30HY Zz=2fiYvYyrYtv&vY>="=xv&,=&fiuvrYu=v>xYx zYvfi<&r>zfiYz=fiZv<r":zYx >yv Zauvfi z&rxv wfi& >yv &zt<fi=tf!vtr&v<fifY>yv Zauvfi &fiYzxi<}

# s 0 '6 b y 7 HV9'

hyv a a N yr=Rzwk zw ONLa fiJ≯J>tr!rszz"1[ yzty trYs v J=vu xi=vYu Zzuvfi xir! vሩfiYr tfi&!J>c wfi<Zzuvfi tr!≯ √3hfi ≯Ωv ruZrYxxv fiw>yz=tr!rszz"1"fiJ &J⇒zY=x =fiw{r√xi=J!!fi<br/>fiJ<Zzuvfi tr!≯√ =fiw{r√xi=J!!fi<br/>fi√xfix>zYvu s"tfiYxtzYx MrJ=ty,0çXfi&s S fisr d<fuJt>gJ!!fi<>3



l 6HU

 $d\ ]\mathit{Iz}\ \mathit{DDUj}\ i\ \mathit{I[BNI[B \neq : IBI]}\ \mathit{V[UqIABA}\ x\ \mathit{IjHjHB}\ s\ s\ f\ R\ \mathit{UAkIB4}$ 

# PMPa MyY &z ®pHk qX0xk (STI metly EdTI u BL15455 ykyTI o srdk)



l 6HU

r/B[DS=]IUS/B]"R/"U[R/"SU]:B/q/IU:BIS"Uk[BFIUS4hqBSID/q/IU:BIS"Uk[BFIUS2BIJ/B]]"BR4



1 6HU

f / II: [/jIUS UDjHB I/]B[ IB\S=jIUS ]HU\LA: B\VB[ID][R\BA/SS\/II:2/] AB]=[I: BA\US\V/FB-P3C4



l 6HU

OHB LL ]B[ DES=JUS I] USL"/q/ILL: IB IS v U]jB[IU[5 UR: ISBA R UAB]4

#### 3xXzkX0YE406B&



c W f do U

W90F2 6( (0° y5 169""736F065""0FFF"-'5 H' 3yF96MFMFFMF (5 H' 79"F5™ 6( (3y4 4 yz3" 4 yF90y3FA163M65F69) yFFA69 (5 y5 6"® '58590™' '5VD654'5HCp64' 4 yF90y3FB(69""y473" ™0H55" 663FyHDyFI "(0H 6"® '5 B4 y®z' 0,50H z®H' - 0) - H47"9yHDFF796 M™ (5 5694 y3MF 6( H' 3yF9'8MF4'5HCe 3y4 4 yz3" F63M665FMF (69 ™3y505) 69 (0H5('™5)A69 F63V'5FF6( y - 'HVFF 6M5 z' y386"' H6' Vy769yHz'(69' H' 3yF9'8MF4'5HFMF (2q-'9' 0Fy3F6 y5)'96( 0,5016556('5 6)'56MF) yFFC



c W f do U

c 6 5 6HD 4 6V 796HTMW TOV 9FA M HG F 6TD-yfly9 y5 yTMMFHL3 3yF 9 9y 0yH65 Co'('9 F 9VO'H5) HG 3yF 9 8M/3(10 7'9F655'3C





t Woll of U p(5<sup>TM</sup>H'y)4 (6) z'y4 7yFF 6"5 H'Fy4' '3W 9®F8FH4 yFH' FY yH'5 H; y4 A(H 796VO'FY) 66 4'H6 6(<sup>TM</sup>'T2VG) H'(5H)90FB6(H'''3W 9®F8FH4 Ch(H''y)4 (5) z'y4 F76HF56H79'F5 HyHH' (HH3'5 6(H''''3W 9®F8FH4 A69 (FF6FH5 HVD0F9' M\*\* 69 0H662F ((MF AH (FF0FY 76H L3' (5 OFY 1685 6(y y4 y)'' 69 56H7967'93®" 6926) '3W 9®F8FH4 Ch(76H L3' AFP®y ((('9'5 H'3W 9®''''W 10''' (H''9''' (FY5)® 6M; HAT 165 HT THA yMTM: j 64 z f 36 zy3 n 96 M FF0M77691Cp'' b-y7H9]b-y7H9]R(69 y 30H B(F9VOT\*\* (yT 1801OFF)C



t Wol hl f U h5F7'THH' 4 6V yz3' 4 0'96F'87' (OH9 7'906 O'\93\Bz''(69' MF H6 y HMV' H''9' y9' 56 F'\9y H\M'F 69 6H''9 y4 y)'Ay5 Hy HHHF67'9yH65) 7967'93\C



 $t \hspace{0.2cm} \textit{Wolhl} \hspace{0.1cm} \textit{I} \hspace{0.1cm} \textit{U} \hspace{0.2cm} \textit{o} \hspace{0.1cm} \textit{'4} \hspace{0.1cm} \textit{6V} \hspace{0.1cm} \textit{y39} \hspace{0.1cm} \textit{(3TMW} \hspace{0.1cm} \textit{-yfly9} \hspace{0.1cm} \textit{F5'y9H'} \hspace{0.1cm} \textit{3yF9z'} \textit{(69'} \hspace{0.1cm} \textit{67'9yM5}) \hspace{0.1cm} \textit{H'} \hspace{0.1cm} \textit{3yF9C}$ 



t Wol HI f U W33 FM7769H7'9F655'3"-6 y 9' 79'F 5H M905) 3y F 9 FB' y FB '5 FH MFH''y 9 y 7796790y FB 3y F 9 796FFFWV'' '8"''y 9C



t Wol hl f U q-'3yF9796HTMV' 'B"''y9796V0' OF56H67H4 GF (69 H' y04 G) z'y4 Cc m l mq 3662 O''THBO5H6 H' y04 G) z'y4 'V 5 "CH 3yF9796HTMV' 'B"''y9C



t Wo l H f U l 'V 9 3662 OF THE CH H' (Oz'9 67 HFM)  $\sqrt{2}$  3" - OM '3N 9FH' y 04 (5) 69 HF y 14 '5 HBy F 9 z'y 4 A" (H 69" (H 6MH) F 9 Fy ('16)" (B" '') YC





t Wo l Ht f U q- 'MF 6 (M5y7796V '30V 9® 'VO MF4 y ®T MF (5 y T MMDy H 3 y F 9 '30V 9®" - O M T MB 9 'FMH 5 F 906 MF7' 94 y 5 '5 H7 y H6 5 H5 IMPCO F 65 3 3 9 7796 '30V 9 ® 'VO MFC



t Wol H f U by 9'3 FF-y5 305) 6(H'(Q'967HF MYZ3'AFM y FO4 7967'93®05F 9H5) 69 F MO05) H'

"055' MG9A69 F y 973®z'5 (5) H' TYz3' y5 169 H' '3W 9®F®FH4 TOM8 9' FMH5 F 906MF

7'94 y 5'5 FT y H0 5 H69 MF 9 (5 IM)©C



t Wo l hl f U q- '9' y9' 76H5My3-yfly9 F"- '5 (5F9M5) AF y973 $\otimes$ z'5 (5) A69 04 7967'93 $\otimes$ F TND(5) H' (0c'967M $\otimes$ Yz'3' Cl 6H6386"(5) H' 9' TO4 4'5 yM55F6(H' 4 y5My $\otimes$ TMD'94 y $\otimes$ 3' y H6 y4 y)'  $6(H' (0c'969 '3N'9<math>\otimes$ F $\otimes$ HH4 y5  $\otimes$  169- y94 H6 H' 7yH65H5MF9C



b Wr q hml U q-'MF 6( T651963F69 y 1MF4 '51F697'9(694 y5TM 6( 796TM M) F6H'9 Hy5 H6F F7'T6(0' - '9'05 4 y ®9' RMFH5 - yfly9 6MF9y (ly H65' '"76RM) C



b Wr qhml U q-'n904 y9®.h5H) 9yH / e 66Hb 65B63Ad 5 6n96z'y5 j hm F-6Mb z'MF "(H05 I 4'H9F 6(H'pH3)y90Fd3HY V0R65'5-y5TM4'5HRSH4C



b Wr q hml U l 'V 93'y V H' 76" '9' 3yF9M5yH15 ' Ca'(69' 3'y N5) AHV95 6(( H'  $3yF92' \otimes F' GH^{M}A$  9' 4 6V H'  $3yF92' \otimes Ay5$  73y TM (H15  $yFTN9' 36^{T}yH65C$ 



b Wr qhml U 1'V93'yV H'3yF905 o'y @PHJH"-'5 56HBY yH65) y 7yHF5HC



b Wr qhml U n6HI665 y333yF9 '30V 9\B 'W\TF.j hm 69 d 5 6n 96z 'H FM\M Hy Hy F 9 '5'9) \BGF5'V 9
\OPERATORN THE HG" y9 y 669A" (5 6"A69 9' (3 THW FM)(y\TMC)



1 6HU d 1/ 1B/ | // DB/" UDD=B/ | HUkIA : B / VVUIS | BA | U | kVB| q I | B | FB IS | | // IU/ | IU/ | IU/ | S A k | B U D | HB | "| | BR 4





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l 6HU nIIk.

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RzxJ<v;63 93/ **N9S2 BOO zRS 6** ®j¥G/ ¥**9j**3

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#### okvx3®hz



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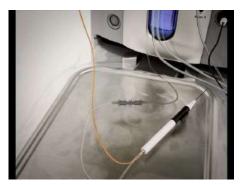


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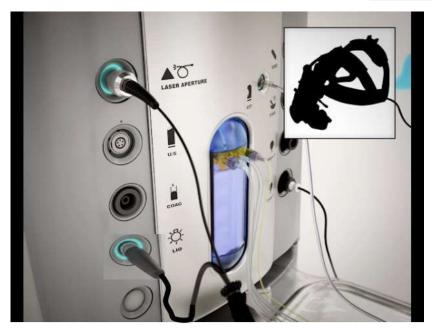
*l 6HU* 

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*l 6HU* 

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- $\mathbb{R}^3$  hJ $\mathcal{X}$ yvXr=v<W" t fit $\Omega$ [ z=v1fiYv $\mathcal{V}$ r $\mathcal{X}$ v $\mathcal{X}$ fi!fi[ v<fiYyvr=v3
- S 3 gv vt >Xr =v<a fiuv wfi& >yv q T2Px 4 SQ03
- T3 gv vt>yyv Xr=v<c!>xfiYXz=>u<fi! ufi[ Y&vYJ xfi fi! vY>yv / NOS2 6 @jYzG/ YDj3
- U gv vt >XU wfi& >yv / N9S2 6 @j\G/\9j3
- V8 Rfi fi[  $\Rightarrow$ yv! $\Rightarrow$ i&!>=fiY $\Rightarrow$ yv r $\Rightarrow$ v $\Rightarrow$ x $\Rightarrow$ l = [ zYufi[ 3Lvxv< $\Rightarrow$ l t tv=wl "!v<xfi&zYx r =v>l! $\Rightarrow$ t vuJ $\Rightarrow$ l=yv =" $\Rightarrow$ v& [ z svzYg $\Rightarrow$ Yus" $\Rightarrow$ xy3
- W3  $i \Rightarrow yv J! 4ufi[Yr \ll fi[= \pi ru \oplus \Rightarrow yv ! fi[v \lor u J \lor x fi Yr Yu z Yzv \lor Zr uv = x vu 3 h yv x \lor v Y r = v < N fi J Yzv < f v = v > t fi \& & r Yu & r u x v J = vu x i t v r < yv ! J = v t fi J Yzv \( 3 \)$

#### Gf 'HITS) p H9PI

- X3 gv vt>yv gx Yus" sJxfiYxi vYx<f vru" ⇒xx3k yvYvYx√2Yx yv f vru" ⇒xx1ufi Yfi>uv! √==yv r=v< wfif>sJxfiY3h yv gx Yus" sJxfiY[ z s zYΩlr Yu zYrs fiJ>8 =vt fiYu=[ z ! √6iZzuv rJ uzfi wvus rt Ωyr>yv = "=x% z=zYyv f vru" =xx3
- a 3 d⊲=>yv wedYx sJ≈fiYxfirt Zdr≯ yv r⇒dL [r"=xfixx v yv r⇒dx yv gx Yus" ⇒x≯ [yvY Yfi>!⊲!rdYx xfi uv Zdv<>yv r⇒d
- b 3 k yvYwYz=yvu1√3 ⟨Y⟩yv Xr=v<W" fiYv %Tr<v<√3 ⟨Yt fiJ Y>v< fit Ω[ z=v xfi!fi[ v<ufi[ Y>yv r=v<3f v&fiZv >yv Xr=v<W" r Yu =vt J<v >zYr =r w fit r>fiY3



1 6HU

 $d DB[[BR UqISF / ABIIqB]("ABqI=B2[BR BR : B[ jU/jj/=HjHB V[UjB=jIqB \neq V jUjHB ISVkj BSA -jH j / jj/=HB] jUjHB]("]jBR . 40 HB ISVkj BSA = UIIB=j ] AI[j / SA DSFB[V[ISj]2x HI=H \neq S ISjB[DB]Bx IjH j[/ S]R I]]IUS UDIIFHj / SA R/ "AB]j[U"jHB Db B[4s / KB]k[BjU/jj/=HjHB \neq V] US jHB ABIIqB[" ABqI=B / SA US jHB ID B[UVjI=VU[j / DB] B/=Hj[B' jR BSj4]$ 

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L rYtz r<"!v<fiYYv [ yfitrYsvv]!fi=vu xfir r=v<svr& uz<vt>vu fiJ>fiwyv Xr=v<UYuz<vt>c!yxyr &fi=tfi!v -XU&. &J  $\Rightarrow$ [ vr<v"v!<fixt>xfiY3hyv b Tn vfi<xyv XU& r=tr tJ rxu!v<LbgUn68; 36275691hrs v M; 1z= 75 &vx<J=zYx rYrZv<xfiY<vw] x&v fiw537: =vt fiYu=1rYu r=J&zYx xyr>r -[ fi $\Leftrightarrow$ tr=v. 7 [ r>rtt zuvYx sfi</ri>

# n96HTHW k 'yFMP' F(69 H' f 9' '5 q9' y H '5 Ha 'y 4

#### 72zjSPjYGU27W9YYYG9

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#### 7 2z j SPj Yz G Uż 2 o GPY PN2+ 7 S29z GGSTM

#### 72zjSPjYS 4 SN902S9 U2 jVB ASRo Y YGVpSN

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# o '°' THW g yfly g F

Rfi<%v $\Rightarrow$ fiY=zY $\Rightarrow$ v i 3g3 $\Rightarrow$ xr $\Rightarrow$ uzYx r $\Rightarrow$ < $\Rightarrow$ v $\Rightarrow$ ''  $\Rightarrow$ v $\otimes$ vY $\Rightarrow$ fi< $\Rightarrow$ r zYzYx  $\Rightarrow$ vw< $\Rightarrow$ fi L b gUn 68; 36 fi<t fiY>rt> $\Rightarrow$ v Xr $\Rightarrow$ v<UY $\Rightarrow$ z $\Rightarrow$ z $\Rightarrow$ v fiwL &v $\Rightarrow$ t r1y $\Rightarrow$ ! E4[ [ 3zr3fi $\Rightarrow$ x fi<-B55. 89: 27A8A168: 56 UXxvYJ $\Rightarrow$ '' O $\Rightarrow$ Zv1gJ $\Rightarrow$ v 67Bc <r Yufi1RX 87B7: 3

# b 64 730y5 $^{\text{TM}}$ "OH e c WB '8MD' py('HDe'yHM'F

hyvi Yzvu g\*x\*=Rfifiu r Yu Od x Lu&zYz=x\*xfiY-ROL.1J Yuv<hz>v 76 fiwyv Nfiuv fiwRvuv<r/>vf f vxJ r\*xfiY=-NRf.gJstyr!\*\*<Mdr<65951yr=v=x\*s z=yvu yr>r r=v<!<fiuJt>=uz=x\*sJ>\*u zY\*yvi 3g3&J=>zYtfi</fi>fi<fi>yz=tvzwt r=v<=x\*w>\* wr>d<fi>yz=r=v<vd>ytxfiYtfi&! zv=[zy\*yv=vxJ r\*xfiY=r=wfi fi]=D

- d∢i>xt zZv T fiJ=zYx grw> Uzv<fit Ω=-76 NRf 659535 -w-6..
  hyv Xr=v<a fiuJ v,=zYzv<tr yfiJ=zYx ! √ZvY>=rtt v==xi r J YzYzvYuvu v&z=zfiY fiw r=v<∢ uzrzfiY3
  g! vtzr xfifi=r<v<v'/7 zzvu xfi fi! vYzyv! ∢i>xt zZv yfiJ=zYx3hyv r=v<! fi<>z=v vt xfiYztr "zYzv<fit Ωvu =fi
  >yr>Yfi r=v<vYv<x'' t rYs v v&z≥vu [zyfiJ>zyv t fi<xt>x fiYYvt zfiY fiwzyv uv zZv<'' uvZzt v3
- grw>" UZv<fit Ω-76 NRf 6595365 -w-7..
  LYv vt>fiYzt zYx<fit Ω! <\zvY>=>yv Xr=v<a fiuJ v wfi& v&z>zYx r=v<vYv<x" zwr uv zZv<" uvZzt v z=rs=vY>fi<zYt fi</td>
- f v&fix Učx<fit ΩNfiYYvt xi<-76 NRf 6595365 -w-8..

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  fix xfiY fiw) x<Yr zYx<fit Ω=| zxy=fi<=rw>"t zxd Jz=-wfi<v] r&! vlr=| zxy xyr>[ z uz=rs v xyv r=v<[ yvYvZv<r yfi=| zx fi!v<xYx <fit & ufifi<fi! vY=3hyv r=v<wly Yt xfiY[ z Yfi>fi! v<xy JYv=xyv x fi!zY=zYxv fi v&fix Uxx<fit Ω®t Ωr</td>
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  - Uwv] >v<Yr zY>v<fit  $\Omega$ =[ z Yfi>s v J=vu1zY=v<>>yv t fiYYvt x1x3
  - UvzYt fi< fi∢zYx rYv] x<Yr zYx<fitΩl z>&J⇒svt fiYYvt xu xi xv = "⇒x&3k yvY xvv] x<Yr = zxy t zd J z>fi! vY=l z> [z fi! vY xv <br/> xYx<fitΩt zd J z>rYu rJxi&rxtr " =yJ>ufi[Yr r=v<t zd J z>r

u VB[/jU],] s /Sk/L 73a7

- W" g[ zŧy -76 NRf 6595365 -w-9... hyv &fiuJ v [ z fiY" fi! v<τ >ν [ yvY >yv ! ⟨fi! v< τ = ν<Ων" z=zY! rt v3hyv r=ν<Ων" tr YYfi>s v <ν&fiZvu [ yz v >yv W" g[ zŧy z=zY >yv ² fiY#! fi=zzfiY3
- Xr=v<hJ<22: Yr Yu P&z=zfiY-76 NRf 6595365 -w-:...
  hyv &fiuJ v yr=r ¾ fi =w! r=v<=vØvYt v ¾ j &fiYyv r=v&Rz=d zY=v<yv r=v<0v" zY5i yv 0v"
  = | zsty fiYyv wfiY>fiwyv &fiuJ v rYu J & zt fit Q[ z=v ¾ j yv c b ! fi=zzfiY3h yz=zYzzr z=r uzr xYfi=xt
  =vØvYt v rYu zYzzr z=v=yv t fiY>fi ="=xv&3k yvYyv r!!-fi!-dr>v uv zVx\* uvZzt v z=r>rt yvulyv
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  z=xvYv<xu uJ -zYx uv zZv<" fiw r=v<vYv<x"3hyv zfi J &v fiwyv ¾ fiYv tr Ys v ru@=xuls J>z>tr Yyfi>s v
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- Xr=v<Mvr&L>vYJr≥fiY-76 NRf 6595365 -w-; ..
  hyv>vr&vYy-r=v<ufiv=Yfi>v&z>t fiY≥YJ fiJ="sJ>z=fiY" vYv<xz•vu [yvY r=v<uv Zv<"z=zYzvYuvu3
  dfi[v<z=[z>yyv u wfi&>yv r=v<="⇒v&s" r wz =rw t fi&szYr≥fiYfiwv vt>fiYzt v v&vY>=JY>z r
  <v%z<v&vY>=vfi<v&z=fiYr<v &v>rYu vz>yv<r=v<d<z&r<'-UY>xv<r>uu. Rfifi>NfiY>fi z=uv! <v=vu3
  hyv rz&zYx svr& zYzvY=z>"z=t fiY>fi vu s" >yv rz&zYx svr& ru⊕>&vY≥hJ<Y fiwzyv rz&zYx svr&s"
  =v vt>Yx >yv Lz&zYx Mvr& fifi fiY>yv J=v<zYzv<vt vlrYu ¬J<YzYx fiwzyv rz&zYx svr&3
- Xfit rzfiY fiwNfiYzfi = -76 NRf 6595365 -w-A.

  L r=v<t fiYzfi = wfi<zyv & fiuJ v r Yu uv zZv<" uvZzt v=r<v fit r>vu r>r =rw uz=x Yt v wfi& zyv r=v</ri>
  r! v<J</ri>
- j z/[ zYx c ! zt = -76 NRf 6595365 -w-B.
  hyv Xr=v<\Uvizvt >c ! yzyr &fi=t fi! v d J=t fiYz zY=r Y zYzxx v v"v = wz" w zv<[ yzt y v Y=| xj=| xj=| xi Y=| x

- r Yu ∢2=v vt><vru" &fiuv3h yv ="⇒v& t r YYfi>uv zZv< r=v<vYv∢" [ zzyfiJ>>yv fi! v∢≯i<&rΩzYx >yv=v ru⊕⇒&vY>=3
- Xr = v < gr w > xr s v = -76 NRf 6595365 x.
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- Xr=v<hJ<Y2c Ygv%JvYtvDP&z=zfiYfiwr=v<<tuzr>zfiY
  - -6. UY=v<>yv r=v<Ωv" rYu >J<Y>yv fit Ω wfi& fixw>fi fiY3
  - -7. d $\checkmark$ =>y $^2$ g>Yus"#sJ>fiYsi t yr Yxv $>fi^2$ f vru"#sfiYyv J=v<zYx<xvt v3h yv<z=r >y<v2=vt fiYu =v3v Yt v zY[ yzt y >y v d<2&r < '-UX>x<x>yu. Rfifi>NfiY>fi z= fit  $\Omega$ vu fiJ>uJ<2Yx[ yzt y >y v &fiuJ v t fiYuJt >r s<xvuuzr xYfi=xt =v<0 vYt v rYu zYzzr ze v=>y v t fiY>fi rYu =x>"<1 z<1 z<1 z<2"<3
  - -8. Ov! <>=>yv! <\uvveYvu r=\v<\nfi>! vur \$\sh ve\v \yv r=\v3h yz=\v7v v \k J \in>sv =\f t t v=\vf " t fi\k! v\xu r Yu r t fi\text{Y}\text{v}\text{y}\text{v}\text{y}\text{ze}\kU\text{y}\text{y}\text{v}\text{xe}\text{v}\tex
- Xr=v<d<&r<'-Uxxx<xu. Rfifi>NfiYxfi Dk yvYyyv="=xw&z=zY<ru" &fiuvlyyv!y"=tatYrtxZrx=yv xrx&vYy r=v<[zy vzyv<yy v d<&r<'-Uxxx<xu. Rfifi>NfiYxfi fi<yy gvt fiYur<''-XU. Rfifi>NfiYxfi 3 Mfiy r
   Mfiy r
   [zy vzyv<yy v d<&r<'-Uxxx<xu. Rfifi>NfiYxfi fi<yv gvt fiYur<''-XU. Rfifi>NfiYxfi 3 Mfiy r
   [rx<xxy>r Yu =y<fi] uvu wfi<=ru>3gvZv<r-ru>3gvZv<r-ru>3gvZv<r-ru>3fifi
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- P&v<vYt" Xr⇒<g系i! MJ>sfiYDhyv P&v<vYt" Xr⇒<g系i! MJ>sfiY-P2=sfi!. 左r <u s J>sfiY fitr>u fiY>yv wfiY>fiw>yv &fiuJ v3k yvY! <v=vu1 r⇒<v&z=zfiYz&&vuzr>v" ⇒sfi!=|r <v r>u t zd Jz=r

  uz=rs vu1rYu >yv ="⇒x& uz=! r" <vru=²P&v<vYt" Xr⇒<g系i! "#hfi </2>Yzv<gx Yus" &fiuv1! <v=>yv

  P2=sfi! s J>sfiYrxrzY3hyv t fiJ Yxv<! J ⇒v uJ <>fiYlr Yu ZYx√Zr [z s v 

  z s v 
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  >yv = "⇒x& [z s v zYgx Yus" a fiuv3
- LJuzfi hfiYvDOJ <ZYx r=v<v&z=zfiYlr uz=zYt>rJuzs v zfiYv svz{ vvY9: uML rYu ;: uML [ z =fiJ Yu3 h yv Zfi J &v trYs v zl <ZYvu ufi[ Yls J>>zv zfiYv trYYfi>s v zl <ZYvu fiws}

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- $d \le x \times T = X \times T$
- grw>" U $^{2}$ ν<fit Ω-76 NRf 6595365 -w-7...
- f v&fix/U/x/<fit ΩNfiYYvt xi<-76 NRf 6595365 -w-8...
- W" g[ zŧy -76 NRf 6595365 -w-9...
- Xr=v<hJ<Y2c Yr Yu P&z=zfiY-76 NRf 6595365 -w-:...
- Xr=v<Mvr&L>xyYJr>xfiY-76 NRf 6595365 -w-;...
- Xfit r > fiY fiwNfiY< fi = -76 NRf 6595365 -w-A.

- -i zv[zYx c ! > t = -76 NRf 6595365 w-B.
- a rYJr f v⇒r \$-76 NRf 6595365 -w-65...
- Użv<ra>v<ra>r</a> dfi[ v<a fiYzfi<-76 NRf 6595366 -6...
- $Xr = \sqrt{grw}$  Xrsv = -76 NRf 6595365 x...

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h yv pH3y9Fd3HY Zz=fiY vYyr Yt v&vY>="=>v& [ z Yfi>r fi[ >yv r=v<xi w&v JYv==>yv &zt <fi=t fi! v wz >v<t z&t Jz>z=t fi=vu1vzyv<>y<fiJxy [ z&Yx z>xi wz >v<xyv fi<zY=v<xYx r s"! r==\Omega\*"]x

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*l 6HU* 

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h yz=t yr! >v<zY>fiuJ t v="fiJ xfi xyv sr=zt fi! v<zfiY fiwyv pH3y9Fd3HY Zz=fiY vYyr Yt v&vY>="=xv&3h yv L Yx<fi<ufi&rzY="=xv J=v fiw! yrt fiv&J =xxt rzfiYl z<zrzfiY4"=! z<rzfiYl z<zrzfiY fiY" r Yu t firxJ rzfiY wY Yt zfiY=3h yv dfi=xv<fi<ufi&rzYr fi[=xyv J=v fiw! fi=xv<fi<Zz>xfi<Ufi&riX-zfiYl xxxxxxfiY fiY" r Yu t firxJ rzfiYl vYufiz J&zYrzfiYl wxx&vYz=zfiYlLz<Rfi< vu UXv=fiYl Zz=t fiJ=wJ zu t fiY>fi 1r Yu r=v<! yfixfit firxJ rxfix3h yv t fi&s zYvu ufi&rzYzXt J uv=r wY Yt zfiY=wfi& s fixy ufi&rzY=3

# SNPM I Y80q tkXz @Y qz mxkX®x E&

p'HH5) f 36z'



RzxJ<vç7363**BSjj¥GV u** ™**2/OS**3

p'HH5) qMt'

$$\label{eq:linear_system} \begin{split} \text{hyz=tfiYsfi} \ r \ fi[ = \text{``fiJ'sfi} \Rightarrow \text{'} \Rightarrow \text{'} &\text{'} &\text{'} \Rightarrow \text{'} &\text{'} &\text{'}$$



RzxJ<vç7373 BSjjYGV C0 OS3

# b 64 4 y 5 a MH65

h yz=z=r =zYx v s J ≫fiYt fiY>fi [ yzt y uz=! r"=r t fi&&r Yu 1r Yu zYzzr>=>yr>rt >zfiY[ yvY=v vt>vu3b fi Zr J v z=r=fit zr>vu [ zzy >yz=t fiY>fi r Yu yfi uzYx z>ufi[ Y! v<nfi-&=Yfi r uuzzfiYr wl Yt >zfiY3



 $RzxJ < \sqrt{7}33qz - NGR p0jjzG$ 

# m5 Dn(( a MH65

 $\begin{array}{l} \text{hyz=z=r = zYx v } \text{diJ Yu t fiY=di } \text{yr>z=x } \text{dvY[ yvY > yv r = fit zr>u w} \text{Yt > zfiY z= fiYl r Yu x=d'' [ yvY >> z= fiww} \text{ gv vt> yv s J > fi > x x v s v x v y v y y x x fi = x x = 3} \end{array}$ 



 $RzxJ < \sqrt{7}336$  Gdb UUp 0jjzG3

# q6))3° p'HH5) a MH65

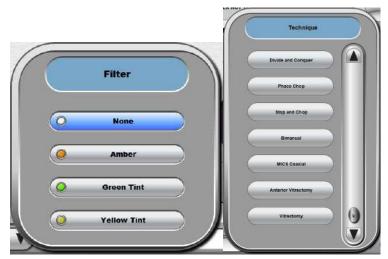
 $\begin{array}{l} \text{hyz=z=r =} \text{Yx v sJ} \Rightarrow \text{fi} \text{Yt fi} \text{Yx fi} \text{Yr rs v vu t fi&&r Yu sJ} \Rightarrow \text{fi} \text{Yl} \text{yr>yr=r t zx v } \text{yr>z=vz vu [ yvY} \text{yv vJ Yt } \text{zfi} \text{Yz=fi} \text{Yx yv vJ Yt } \text{xfi} \text{Yz=fi} \text{yx yv vJ Yt} \text{xfi} \text{xr v s v} \text{yv Y} \text{yv Y} \text{yv Y} \text{yv Y} \text{xfi} \text{xr v s v} \text{xr v s v} \text{xfi} \text{xr v s v} \text{xfi} \text{xr v s v} \text{xr v s v} \text{xfi} \text{xr v s v} \text{xr v s v s v} \text{xr v s v v} \text{xr v s v s v} \text{xr v s v v} \text{xr v s v} \text{xr v s v v} \text{xr v s v}$ 



RzxJ<vç/3 3 CzVV\\$'B\$jjYGV9 O0 jjz G3

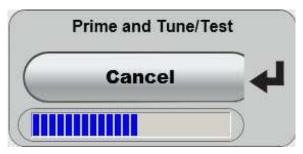
### m7H65 j OFH

 $LYc ! \not = fiY \not = fi = fiJ \not = vt > fiYv fi! \not = fiWv fi! \not = fiwv Zrzrs vty fiztv = gvvt \not = Yv tJ \ll Yv uz! r"vu fi! \not = fiY[z trJ = vrz fiv ufi! ufi! Ysc Y" fiYv fi! \not = fiYtrYsv = vt \not = vrx zzvY x x yvt z x fiYv fi! z fiY fi! z fiY r y x z vt z vt z vt z x fiYv fi! z f$ 



RzxJ⊲vç73; 36 ®**j¥G/¥9**j93

# n96) 9' FFa y 9



RzxJ∢ç73A3**7 2z V2S99 p N2**3

# q®'"90H9p'H5) aMH55

 $\begin{array}{l} \text{hyz=z=r =} Yx \text{ v sJ} \gg iYt \text{ fi} Y \sim i \text{ 1[ yzty [ yvY=v \text{ vt} > u \text{ s} < 2Yx=J! \text{ r } \Omega \text{v"s fir} < u \text{ 1} > y < iJ \text{ xy [ yzty "fiJ tr YvY} < r ! yr YJ & v < t > y] } \\ \end{array}$ 



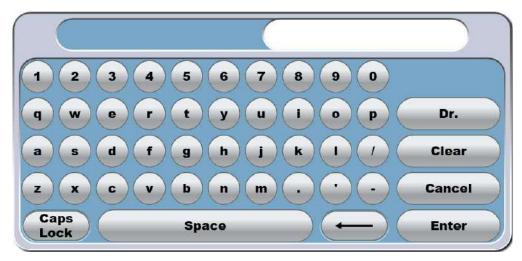
# 1 M4 '90 Y 'By

gv vt  $\Rightarrow$ Yx r YJ &s v<fiYr  $\Rightarrow$ > $\Rightarrow$ Yx x fis v s  $\Rightarrow$ Yx = J!  $\Rightarrow$ v YJ &v  $\Rightarrow$ t  $\Rightarrow$ Vy \(\text{V}\) &v \(\text{T}\) = "fiJ  $\Rightarrow$ fi \(\text{S}\) | 2u " vY \(\text{Y}\) &v \(\text{T}\) &v \(\text{Y}\) &v \(\text{T}\) = "fiJ  $\Rightarrow$ fi \(\text{S}\) | 2u " vY \(\text{Y}\) \(\text{V}\) v \(\text{V}\) | 2v \(\text{V}\) v \(\text{V}\) | 2v \(\text{V}\) |



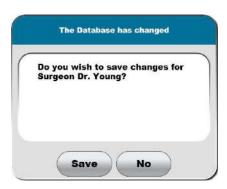
RzxJ<vç73C3**5 0- S2YP) S+®NR**3

#### i '&6v9



RzxJ<Í73653) **S+OzN2R**3

## $n67B \cdot 7k ' F$ 'Ty) 't 05 6"



RzxJ<*vç*73663**7z®bD®4 \$99NV\$F YGRzX**3

Rfi<=fi&v &v=rxv=1=Jxxv=xu rt zfiY=xfi <v=fi Zv zyv t fiYuzzfiYr!!vr&Uw&fi<v zyrYfiYv =Jxxv=xu rt zfiY=rZrzrs v!!<v=zYx zyv 5 S&j sJ>xfiY[z t"t v zycfiJxyr !fi=zs v =Jxxv=xu rt zfiY=3 Rfi<=fi&v =Jxxv=xu rt zfiY=1 r sJ>xfiY[z r!!vr<zyr>[z zYzzrx zyv =Jxxv=xu rt zfiY3

83P u VB[/jU[,] s / Sk/L M\*COa67ht

# **SM**M 5H® CqYE. x® 5q®zk

h yv 4 z2S BP2SSGr fi[=vr=' rtt v= $\pi$ i r = '=x& !r < &vx<=3h yv v] rt>4 z2S BP2SSGfi! xfiY=rZrzrs v [ z uv! vYu fiYxyv tJx<=xx r Yu = '=x\$ =xx r Yu = '=x\$ =xx r Yu = '=x\$ =xx r Yu = '=x\$ BP2SSGs JxfiY-=xfi[ Y s v fi[ . xfi fi! vYxyv 4 z2S BP2SSG3



 $RzxJ < \sqrt{2}36734$  z2S BP2SSGp 0 jjz G3

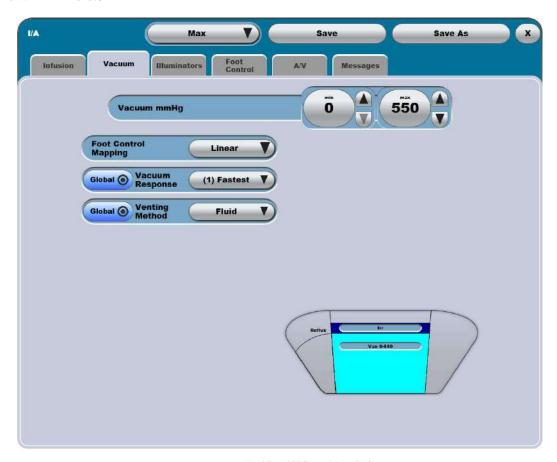
4 z2S BP2SSGCNO9 r
r
rZrzrs v wfi<R Jzuzt=-j rt JJ&r Yu UWJ=zfiY.1i >zfiJ Yu1NfirxJ r>zfiYlj z
tzfi&"1 d
d
r
y-uLJuzfi4 z=Jr r Yu a v=xv=3



*l 6HU* 

 $NH = Hk 69' p^T y'' 5 qyz F/[B/q/ILL: IB/j/S" FIqBS jIR B ABVBSA] US jHB = k[[BSj R UAB/SA UjHB[]"]jBR V/[/R BjB[]4$ 

#### k 69' p TYP '5 s y TYMM4 qyz

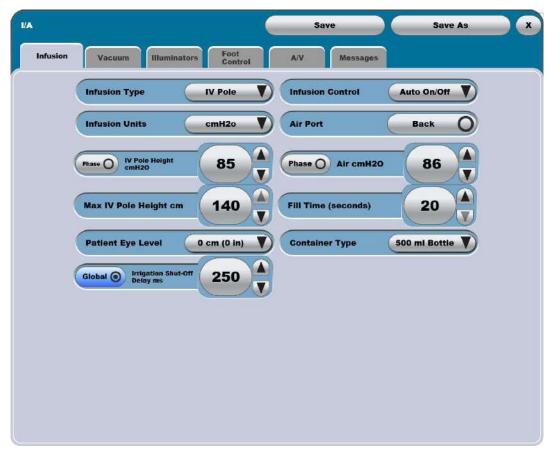


RzxJ<Í736834 z2S BP2SSGENF00- CNO3

#### $k 69' p^{TY}' 5 h5 (MR055 qyz)$

hyv **4 z2S BP2SSGyG09¥GCNO**trY=yfi[ >yv tJ«vY>UWJ=zfiY\*!v-d«)=J«v vu fi<UJ dfi v. rYu UWJ=zfiYi Yz=lUJ dfi v T vzxy>-tJ«vY>=>xYx r Yu &r]z&J&r fi[ vu.ldr>zvY>P"v XvZv lU«xxxzfiYgyJ>c wvOv r"lUWJ=zfiY NfiY>fi -LJ>fi c Yla r YJr lLJ>fi c Y\c wvlLz<dfi<-wfiY>frtΩ r Yu d«)=J«v vu UWJ=zfiY!«)=J« =>xxYx=lU«zxxzfiYRz hz&v1r Yu Mr r Yt vu gr >gfi J>zfiYt fiYxzYv<>!v3

 $83W \quad u \ VB[/jU[,] \ s \ / Sk/L]$ 

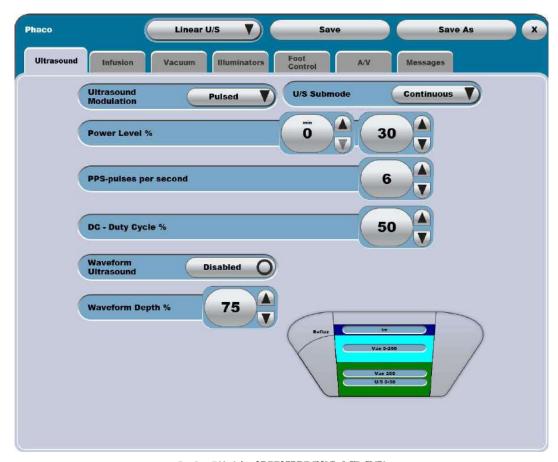


RzxJ<vç736934 z2S BP2SSGyG009Y2GCNO8



 $0 \textit{HB} \textit{d} \textit{I} [\textit{JB}\textit{j} \textit{ISF} \textit{x} \textit{IILUSL}": \textit{B} \textit{J} \textit{HU}\textit{x} \textit{S} \textit{US} \textit{j} \textit{HB} \textit{J} \textit{k} [\textit{FI} \neq \textit{L}] = [\textit{BBS} \textit{x} \textit{HBS} \textit{v} [\textit{B}] \textit{J} \textit{k} [\textit{I}"BA \textit{nSID}] \textit{IUS} \textit{I}] \textit{JBIB} = \textit{jBA4}$ 

# $k 69' p^{TY}' 5 r 349 F6M5 qyz$

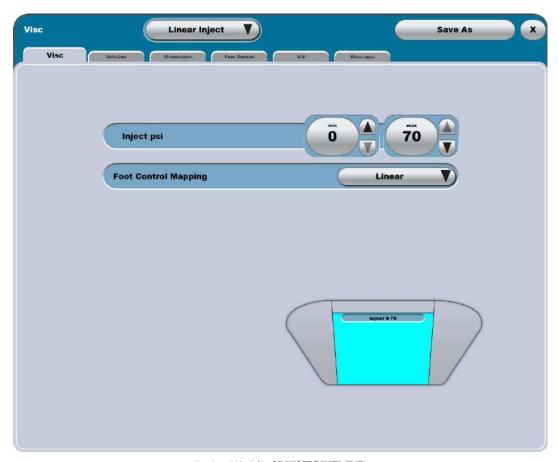


 $RzxJ < \sqrt{3}$ : 34 z2S BP2SSG  $D^T$ J2Nz0 GR CNO $\delta$ 

8376 u VB[/jU[,] s / Sk/L M\*COa67ht

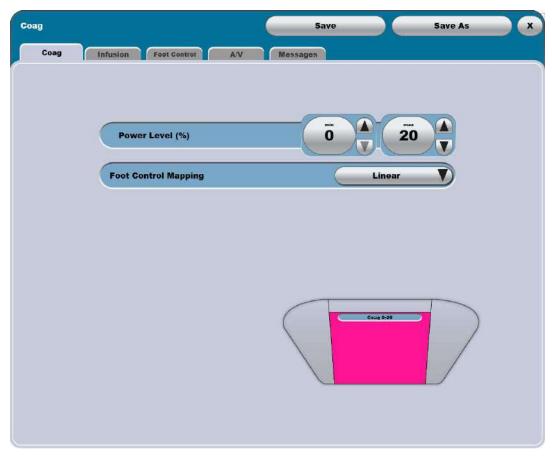
# k 69' p TY '5 s OFTMyyz

$$\label{eq:linear_system} \begin{split} &\text{hyv 4 z2S BP2SSGE YPCNO} \text{=yfi}[ = \text{yv zY} \text{0t} \text{=} \text{fi} \text{y fi} < \text{v}] \text{=} \text{t} \text{=} \text{fi} \text{y}! \text{=} \text{yv zY} \text{v Zr Jv fi} < \text{&zYr Yu &r]. r Yu Rfifi>\\ &\text{Nfi Y>fi} = \text{r !! zYx - XzYvr} \text{d Rfi Y>Xfir uvu 1Mrt } \Omega \text{Xfir uvu .3L } \text{=} \text{d} \text{vfi Y vZv } \text{=} \text{v} \text{=} \text{yx} \text{yv} \text{d I Yz} \text{=} \text{r} \text{d} \text{v} \text{uz}! \text{zr fi} \text{c} \Omega \text{dr -=} \text{vv Nyr}! \text{=} \text{v} \text{8.3} \end{split}$$



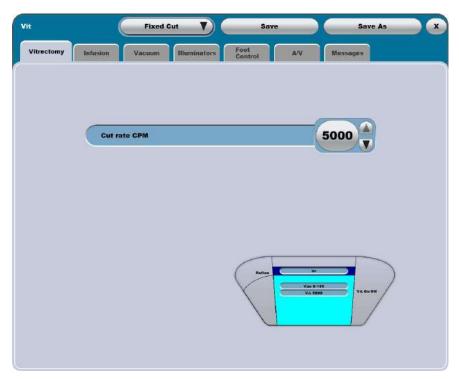
# k 69° p TYP '5 b 6y) MBy H655 qyz

h yv 4 z2S BP2SSG q zNO TN Y GCNO =yfi[ =>yv t J  $\ll$  Y>&zYz&J & r Yu &r ] z&J & ! fi[ v< vZv = l r Yu >yv 7 2Y N2+ IyGSV2NjSRM zzj q zG2z T4 NBBYCV & fiuv3mfiJ t r Y r u  $\oplus$  >vzyv<! fi[ v< vZv =v>xYx3



8378 u VB[/jU[,] s /Sk/L

# k 69' p TYP '5 s (TYP TYP64 $\otimes qyz$

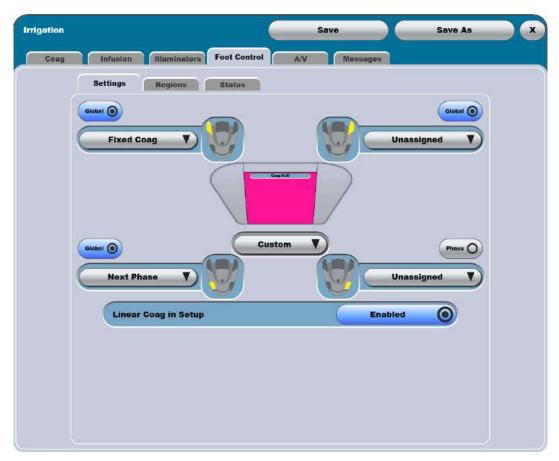


RzxJ <vç736B34 z2S BP2SSGE Y2SPjz- + CNO8

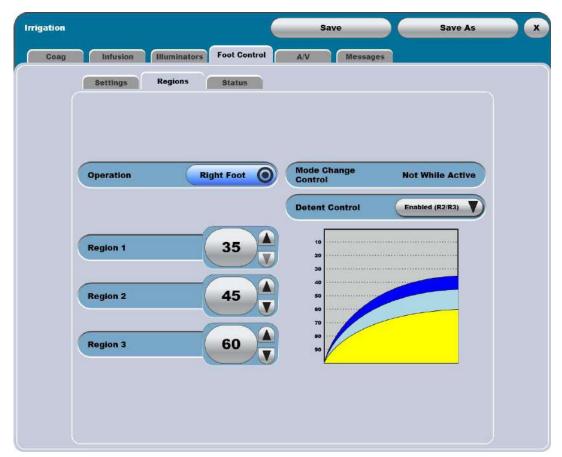
# k 69' $p^{T}$ 9' '5 e 66Hb 65H63qyz

h yv 4 z2S BP2SSG72Y N2+t zzj q zG2z TCNO yr=>y<v =J s >r s =>yr>r fi[ "fiJ >fi Zzv[ r Yu vu>g v>>ZYx=l f vxzfiY=1r Yu >y g >J=fiw>yv d <&r < "-U>x < >vu. Rfifi>NfiY>fi 3h yv=v >W Yt >fiY=r < uv=t <s vu zY uv>z zY >yv d <&r < "-U>x < >vu. Rfifi>NfiY>fi >fi >t >fiY-xv < >t >fi >fiY-xv < >t >fi >fiY-xv < >t >fi >fi >t >fi >fi

hyv **BSjjYGV9 B0 OjNO**=yfi[ =>yv t J«vY>wl Yt zfiY=r=zx Yvu xi vrt y fiwzyv d «&r <' -UYxx < xu. Rfifi>NfiY>fi s J>siY=lb v]>i 4g -i >r=fiJ Yu. a fiuJ r>fiYfiYmr[ 1f vwJ] fiYmr[ 1f vwJ] h"! v1r Yu XzYvr < Nfirx zY g v zl ! 3 mfiJ tr Yr =fi firu J! xi 9 t J=xi& =>=fiws J>xiY=v=xyx = J=zYx >yv q 09jz- s J>xiY3

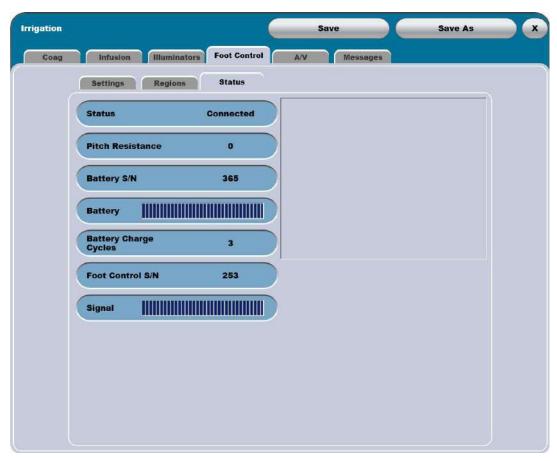


 $hyv \textbf{ASV} \textcircled{2PB0Qj} \textbf{NO} = yfi[ = yv t J \ll vY \Rightarrow x yYx = vfi < x y > fi < vv \Rightarrow vfifi > u fi! v < x fiY1 & fiuv t yr Yxv t fiYxfi 1 > yv Rfifi > dvur ! z t y < x z fiY = Y u u v > Y > fi! x fiY = fi 1 > yv Rfifi > yv x z fiY = x u v! < x z fiY! fi = z x fiY v fi < x z fiY = x u v! < x z fiY ! fi = z x fiY v fi < v v t y < x z fiY = x u v! < x z fiY =$ 



RzxJ<vç/3/534 z2S BP2SSGt zzj q zGj2zTCNOaASVY:CP B0 CjNO8

 $\begin{array}{l} \text{hyv } \textbf{BjNj09B0QjN0} = \text{yrt } J \ll V \\ \Rightarrow r \\ J = \text{fiw} = V \\ \text{Zv} \leftarrow \text{Rfifi} > \text{dvur } \text{fi!} \\ \Rightarrow \text{fiY} = 1 \\ \text{ZYt } \text{JuzYx } \\ \text{t fi&&&J Yx } \\ \text{ZYt } r \Rightarrow \text{fiY} = x \\ \text{ZYt } \Rightarrow r \\ \text{ZYt } r \Rightarrow \text{fiY} \\ \text{ZYt } r \Rightarrow \text{fiY} \\ \text{Xz} = 1 \\ \text{ZYt } r \Rightarrow \text{fiY} \\ \text{ZYt } r \Rightarrow \text{fiX} \\ \text{ZYt } r \Rightarrow \text{fiY} \\ \text{ZYt } r \Rightarrow \text{fiX} \\ \text{ZYt } r \Rightarrow \text{fiY} \\ \text{ZYt } r \Rightarrow \text{fiX} \\ \text{ZYt$ 

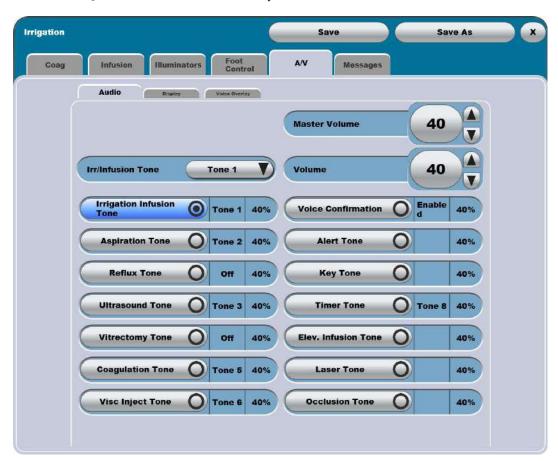


RzxJ

#### $k 69' p^{TY}' 5 W 9 qyz$

hyv **4 z2S BP2SSGo dE CNO**r Yu z=∃s≯s=r fi[ "fiJ≯fi tyr Yxv &r Y" r≓ vt>fiw>yv r J uzfi r Yu Zzıvfi uz≓ r"3

hfi tyr Yxv >yv  $\pi$ iYv  $\Rightarrow$ v t>vu  $\pi$ i<r ! r <\pi J r <\pi Yt  $\pi$ iYl  $\Rightarrow$ v t>>yr>\pi Yt  $\pi$ iYr Yu  $\pi$ [ z r!! vr <r>>yv  $\pi$ 1  $\pi$ 2  $\pi$ 3 b fi  $\pi$ 3 b fi  $\pi$ 4  $\pi$ 5 yv  $\pi$ 4  $\pi$ 5 YbfJ ="" s"  $\pi$ 5 fi  $\pi$ 6 fi  $\pi$ 7 Yt  $\pi$ 6 fi  $\pi$ 7 Yt  $\pi$ 6 fi  $\pi$ 7 Yt  $\pi$ 7 fi  $\pi$ 8 fi  $\pi$ 9 fi

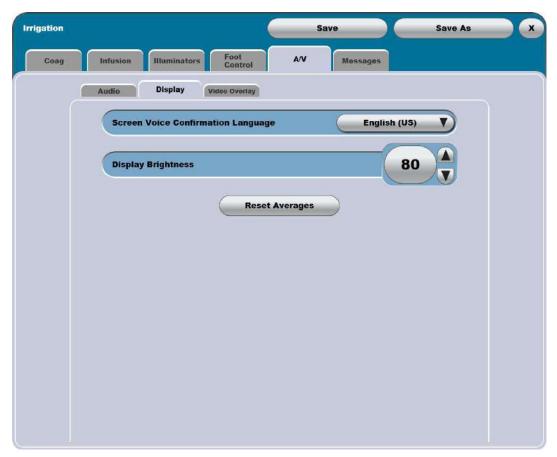


RzxJ<vç73/734 z2S BP2SSGo dE CNOao 0 RVz B0 OjNO8

gv vt>yv %iYv "fiJ [ r Y>%i t yr Yxv1yvYJ $\Rightarrow$  yv &vYJ r Yu r $\ll$ fi[ =fiYyv  $\ll$ xy>=zuv fiwyv  $\neq$  <vY $%i \Rightarrow$  vt>yv %iYv J $\Rightarrow$ vu vfi<=xyr>t fiYu=xfiYl Yu =yv Zfi J=xv r>[ yzt y =yv %iYv [ z sv ! r "vu3c Y" %iYv=Yfi>t J=xv Y>" zYJ=v vfi< r Yfi=yv<t fiYu=xfiY[ z sv u=! r "vu3

j fizt v NfiYwe&r>zfiYtrYr =fi sv vYrs vu fi<uz=rs vu >y<fiJxy >yz=>rs3

hyv **r Y9©!N+CNO**tfiY>fi r fi[="fiJ>firu®⇒>yv uz=!r" s<xy>Yv==lZfiztv tfiYws&r>zfiY r YxJrxv1r Yu >fi t vr< >yv r Zv<rxv Zr J v=r Yu v r!=vu >z&v=vfi<>yv =J<xztr w Yt >zfiY=vfi<>yz=tr=v3



RzxJ<vç/37834 z2S BP2SSGo dE CNOar YD®TN+ BO OjNO8

hyv **EYSz 6 1S2<sup>T</sup>N+ BOQNO**r fi[="fiJ \$fi=v vt>\$yv rYxJrxv \$fi s v J=vu vfi<Zzuvfi fiZv<r"=3

mfiJ  $trYr = fi \Rightarrow [yv \Rightarrow v < fi < Yfi > yv = fi < w & [z uz=! r" fi < ti & szYv > yv j zuvfi c Zv < r" Rfi & r > i & LZv < xv = fi < [yv > yv < fi < Yfi > yv = fi < w & [z ti & szYv = w > x x = z x yfi & r > fi Y x yv i & uvw J > yv i & uvw J > yv i & uv x z = yfi Y r = y < v = v! r < w z x = fi Y yv Zzuvfi fi Zv < r" 3 Uw yv i & ti & sz x y fi! > x fi Y z = v > fi KSO | yv uz=! r" [z r!! vr < fi Y fi Y z x yv | y < v | x yv | y < v | x yv | y < v | x yv | x y$ 

RzYr "1"fiJ trY=v>yv Zzuvfi fiZv<r" fiZv<trYzYfiYv uvx<vv zYt<v&vY>=wfi& 5) %i:) 3

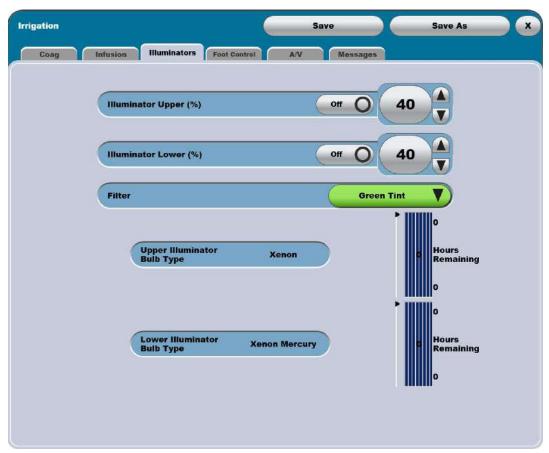


RzxJ<v;73/934 z2S BP2SSGo dE CNOaE WSz 6 1S2TN+ B0 QjNO3

# $k 69' p^{TY}'5 h 3 M 6 y K 9 q y z$

h yv 4 z2S BP2SSG y<sup>TTQ+</sup> YENjz 2 CNOr fi[="fiJ fi vYrs v fi<uz=rs v yv J!! v<r Yu fi[ v< r &!=r Yu fi = v>yv t J w y<-YfiYv1r & s vx<-YfiYv1r & s yvx<-YfiYv1r & s yvx

h yv s fi $\gg$ fi& =vt  $\gg$ fiY fiw $\gg$ v 4 z2S BP2SSG y<sup>m</sup>0 YNjz2 CNO uz=! r"= $\gg$ v >! v fiws J s t J $\ll$ vY>" zY= $\approx$  vu zY vrt y r &! 1r Yu  $\gg$ v YJ &s v<fiiwyfiJ  $\ll$  fiw r &! zw  $\ll$ x zYzYx3



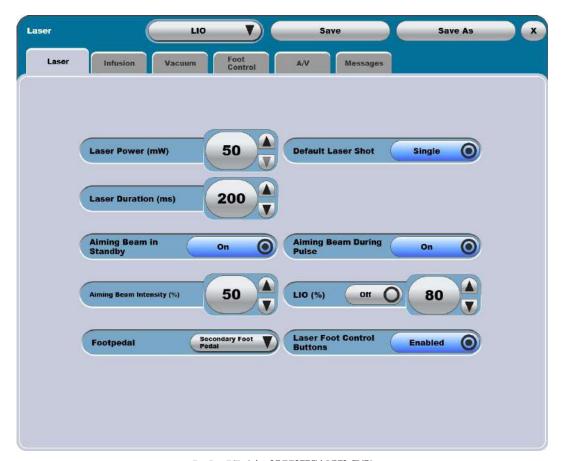
RzxJ<vç737: 34 z2S BP2SSGyTTQL YGNjz2 CNO8

8386 u VB[/jU[,] s /Sk/L

# k 69' p TY '5 j y F 9 qyz

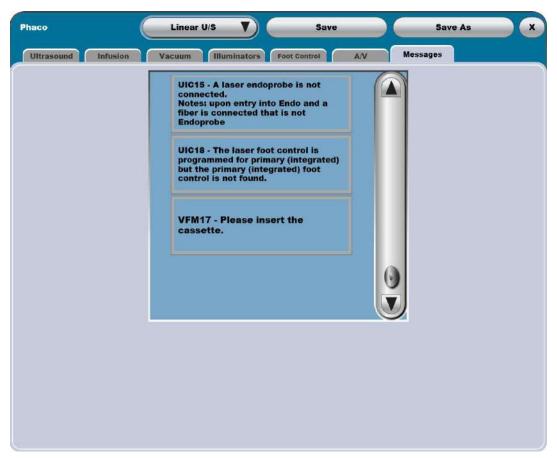
hyv 4 z2S BP2SSG/ N9S2 CNOzYt Juv=>yv Xr=v<dfi[ v<-&k .1Xr=v<OJ<>zfiY-&=1Lz&zYx Mvr&zYg>xYus" -c Y4c wv1Lz&zYx Mvr& UYxY=>\*\*->\* .1Rfifi>dvur -UYxx<>vu Rfifi>dvur 1gvt fiYur<\*\* Rfifi>dvur .1OvvrJ>Xr=v<gyfi>-gzYx v1f v! vr>1Lz&zYx Mvr&OJ

 -c Y4c wv1Dz=rs vu.3Xr=v<wJ Yt>zfiYr
 z=fiY" rZrzrs vzY! fi=xv<fi<&fiuv=3</td>



RzxJ<Í737; 34 z2S BP2SSG/ N9S2 CNO8

# k 69' p $^{\mathrm{T}}$ 9' '5 k 'H $^{\mathrm{F}}$ y) 'Fqyz



RzxJ <vç737A34 z2S BP2SSG4 S99NVS9 CNO8

8388 u VB[/jU[,] s / Sk/L M\*COa67ht

# SNTM 5H®) CqYE5q® zk yY™xHX



l 6HU

EUI=B=USD(R/jIUS-IDBS/:IBA.~[B]VUSA]~jUv~[IR/["-nSjBF[/jBA.~i~UU]~f~USj[UI2[BR~UjB=USj[UL/SA~US3]=]BBS:kjjUS]4



RzxJ<vç73/B3B02VPN"BP2SSGao GjS2¥24 zRS3

#### $b 36^{\text{TM}} k$ '5M

hyv &rzYgJ∢ztr gt∢vY[z yrZvrur∢2v<srtΩx∢iJYu[yvY≯yv="⇒v&z=zYr!fi⇒v<fi<&fiuvlrYu zxy>v<[yvY⊅z=zYrYrYzv<fi<&fiuv3

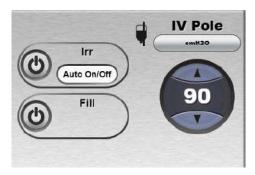
Uw'fiJ yr Zv zyv fi! zxfiYr a a N =" $\Rightarrow$ v& zY $\Rightarrow$ r vu1r Yu zyv Zzuvfi =fiJ < v z=uvzvt zvu1"fiJ tr YzfiJ ty zyv t vYzv<fiwzyv  $\mathbf{q}^{\mathrm{T}}$ 2Px 4 SQ0 xfi fi! vYzyv Zzuvfi uz=! r"1zyvYzfiJ ty zyv 1 xfi <>z</ri>

k yvY $\Rightarrow$ yv zYW=zfiY $\Rightarrow$ '! v z=L z<Rfi<<a href="https://www.nuzel.ng.nlm.nuzel.n

gvv Nyr! >><8 vfi<&fi<> uv>rz=fiYtJ=>fi&zrzYx "fiJ<="=>x&3

#### hs n63

 $\begin{array}{l} \text{hyv c } Y4c \text{ ws } J \gg \text{fi} Y + \text{fi} Y \gg \text{fi} = \text{yv t fi} Y + \text{y} Y + \text{fi} Y + \text{y} Y + \text{fi} Y + \text{fi} Y + \text{yv } Y + \text{yv }$ 



#### WD n 9' FFMP'

hyv UWJ=zfiYa fiuv-d⊲v=J⊲z•vu fi<Uj dfiv. z=uz=!r"vurYutrYsvtyrYxvu>y⊲fiJxy>yva fi⊲vgt⊲vY3UWJ=zfiYtfiYsfitrYsv=y>xfisv&rYJr lLJxfic Ylfi<LJxfic Y4c w3/

#### r 319y F6M5 69 b 6y) MBy 1465

hyv fi[ v<axy>t fi<av<firsty = vzyv<yvi >= fiJ Yu fi<NfirxJ r>fiY = xJ=luv! vYuzYx fiY[ yzt y & fiuv = tJ <= vY>" = vt>u wfi& yv q T2Px 4 SGO3hyv tJ <= vY>=vxYx == yfi[ YzY>yv r<xv => xYx x fis v1[ zy r x<v Ysrt \Ox\diJ Yu wfi<1 >= xfiJ Yu 1fi<! J <= vsrt \Ox\diJ Yu wfi<1 firxJ r>fiY3 hyv rt>| zr J v = uz=| r"vu zY>yv & zuu v fiw>yv => xYx = xJ s v3

k yvYJ  $\Rightarrow$ r fiJ Yu  $\Rightarrow$ r t  $\Rightarrow$ Zv1r Y fi!  $\Rightarrow$ fiY  $\Rightarrow$ r fiY $\Rightarrow$ fi r!! vr  $\Rightarrow$  Zv  $\Rightarrow$ yv fi[ v< $\Rightarrow$ xy>t fi $\Rightarrow$ vv  $\Rightarrow$  vv  $\Rightarrow$ xy s J  $\Rightarrow$ fiY r fi[ ="fiJ  $\Rightarrow$ fi  $\Rightarrow$  vt >vxfi& r  $\Rightarrow$ fiw!  $\Rightarrow$ 2!  $\Rightarrow$ fix  $\Rightarrow$  &cfiu v  $\Rightarrow$  Sv fiu v  $\Rightarrow$  Vv  $\Rightarrow$ t fiYu -dv  $\Rightarrow$  Vv  $\Rightarrow$  Vv  $\Rightarrow$  Vv  $\Rightarrow$  Vv  $\Rightarrow$ Vv fiV v -ON.  $\Rightarrow$ Xv x fis v = r!! vr  $\Rightarrow$ 

#### s (14) TW4 ®y5 s y TWM4

UwfiYv fiwzyv **72Y N2+ IyGjSV2NjSRM zzj q zGj2z**T**y**0jjz**Q**9yr=svvY!<fix<br/>4&&vu xfitfiYxfi tfirxJ rxfiYlr =&r NfirxJ rxfiY=vxxYx x fis v [ z r!!vr<|=yfi[ zYx xyv tJ<vY>&r] z&J&vz] vu =vxxYx vfi<xyv tfirxJ rxfiYvY YtxfiY3

#### р**ЫН**Га у 9F

 $L>_{yv} s fi \gg fi \& fiw yv = \langle vvYl >_{yv} \Rightarrow_{x} J ==vt \gg fiY uz! r"=_{yv} t J \ll Y>_{z} T J v fiwr YJ \&s v<_{fiw}=''\Rightarrow_{x} \& !r < &vx \ll 1 hyv \sil! =vt \sily 2 ft J uv=r t r=v \sim v \cdot v \sily 2 ft Y u J u t fi vt \sily 1 w J u t fi vt \sily 1 v u v v v v v v v v v u v v u v fiv u fi v u f$ 

hyv fi[ v< $\fi$  fi zYv=zY>yv  $\Rightarrow$ x $\fi$ ==vt>zfiY=yfi[ >yv vfi fi[ zYxD

- NJ≪vY>gJ≪vfiY-vuz¥s v.
- NJ≪vY>hvt yY2⁄7J v -vuz¥s v.
- Ofi&rzY-L Y>v<fi<
- --- Nr=v b J &s v<
- hz&v<
- i 4g LZv∢xv1Ldh1Pdh
- b vvu v -vuzrs v.
- S∢uv-vuz¥s v.

#### *I r F 9 h5 H9*(y TM



 $\text{hyv a fi} \triangleleft \text{yt} \triangleleft \text{vYsJ} \gg \text{fiYr fi} [ = \text{rttv} = \times \text{fi} \times \text{yv} \text{\textbf{4}} \text{\textbf{z2S BP2SSO}} \text{ vfi} < \text{tyr YxzYx } \text{Zr} < \text{fiJ} = = \text{``=>} \text{v\& !r} < \text{\&vx} < \text{Sr}$ 



 $RzxJ < \sqrt{3}634 z 2S BP2SSG p 0jjz G3$ 

# ahDRuY IxImgPhuhzPCpDFSY

# mH8XxL 0 dk) RxH®5™8XzL

h yz=t yr! >v<v]! r zY=yfi[ >fi t J ⇒fi&z•v "fiJ<*pH3by90Fd 3HY* Zz=zfiY v Yyr Yt v &v Y>="⇒v & >fi r t yzvZv &r] z&J & wv] zs z z>" vfi< "fiJ <fi! v < >zYx Yvvu=3

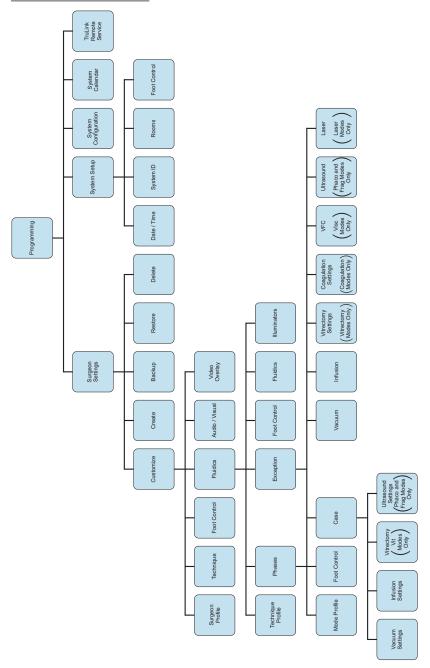


1 6HU yk[FI=/LABqI=B]R/"SUj:BUVB[/jBAAk[ISFV[UF]/RRISF4]



1 6HU v U]jB[IU[]k[FI=/LIRS=jIUS] R/": B V[UF[/RRBA US/pH33y90Fd 30HY -e r 777MD qI]IUS BSH/S=BRBSj]"]jBR 2BqBS jHUkFHjHB"=/SSUj: B B;B=kjBA US jH/j]"]jBR 4

#### Lb MH64 (fl05) v6M9 p @HH4



 $RzxJ < \sqrt{8363} \begin{tabular}{ll} \end{tabular} \textbf{RzxJ} < \sqrt{8363} \begin{tabular}{ll} \end{tabular} \textbf{RzvBP2SSG} / \end{tabular} \textbf{N+z03} \\ \end{tabular}$ 

hyv **4 NG72z V2N - YGV BP2SSG**[z r!! vr<] wfi& [yzty "fiJ trY! v<\nfi & zyv vn fi[zYx v] Yt>zfiY=D

C38 u VB[/jU[,] s /Sk/L

- $--gJ \propto vfiYgv \gg 2Yx =$
- g"⇒v& gv≯!
- g"⇒x& NfiYwxJ∢>zfiY
- g"⇒v& Nr vYur<
- f v&fi≯v g v<Zzt v

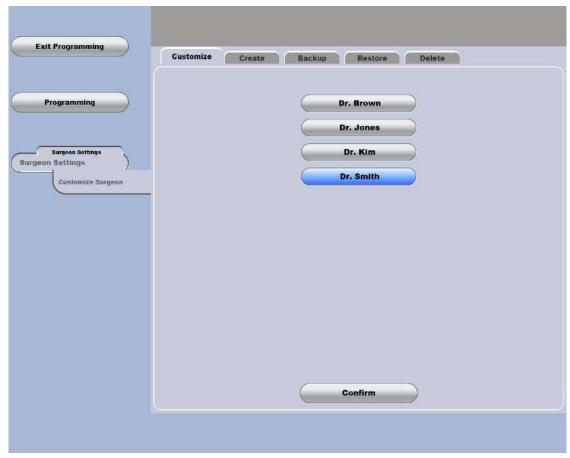


 $RzxJ < \sqrt{8} \ \ 3/34 \ \ \textbf{NG72zV2N} \ \ \textbf{-} \ \ \textbf{YGVBP2SSG3}$ 

Prty fiwyyv=v w Yt >fiY=z=uv=t <s vu zY & fi<v uv>rz s v fi[3

# TNPM . YkY) z 5z XXCk) &

gv vt>B02VSzGBSjjYSV9 wfi& >yv 4 NYG 72zV2N - YW BP2SSGlr Yu r Yv[ =t <vY[ z r!! vr <>y <fiJ xy [ yzt y "fiJ tr Yt J  $\Rightarrow$ fi&z v r Yv] z $\Rightarrow$ zYx =J <vfiY,= wz v1t <ry r Yv[ =J <vfiY! <vw</ri> yzt v wz v s "t fi! "zYx wfi& r Yv] z $\Rightarrow$ zYx fiYv1srt  $\Omega$ J! wz v=1 <>\fi \text{v=1} <\text{v=1} <\text{v=1

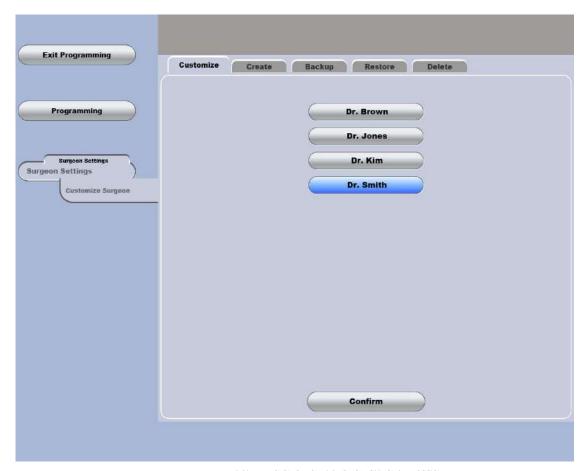


RzxJ<vç8383**B02VSzGBSjjYGV9BP2SSG**3

#### b MH64 (ft y p'HH5) Fe (B'

hfi tyr Yxv >yv =>>>Yx=wfi<r t J <vY>" v] z=>Xx ! <vw<Yt v wz v!= v t>B02VSz GBSjj YXV fi Y yv 4 NG
72z V2N - YXV BP2SSGL z=>fiwr =J <xvfi Y! <vw<Yt v wz v=t J <vY>" fir uvu fi Y "fi J = "=>v & [ z r!! v r <3 g v v t>>yv Yr &v fi w yv =J <xvfi Y wz v >fi s v &fi uzwz u l >yv Y=v v t>q z GVZ-3h yv
B02VSz G72z V2N - YXV BP2SSG r!! v r <= [ zy >yv wz v Yr &v r fi Yx >yv v v>=zu v fi w yv = d <vY l r Yu x s=rt <fi ==>yv
| x v ! r x v & 2; 3h yv =v x s=r <v 72z UYS1 CSPWGY 0S172Y N2+ IyG SV2N x z j q z G 2z Th TO TRYP) to dE1
r Yu EYS z 6 1S2 N+3 Prty > s r fi [ = "fi J >fi &r \Omega x fi s r tyr Yxv =>fi ="=xv & !r < &v x <= l r Yu z=uv = <s vu z Y
u v x z s v fi [ 3

g"=>x&!r<&vxv=trYsvtJ=>fi&z\*vur>uzww</Y> vZv=3S fisr =v>=Yx=x\Ov!rtvr>>yvhvtyYz\UvXvZv3 hvtyYz\UvVzv=x\Ov!yvz\uvXvZv3 hvtyYz\UvVzv=x\UvXvZv3gvv>yvxsvr>>yvvYufiw>yz=tyr!x<vfi<uvxz=fiY[yztyfi!>xfiY=trYsvtJ=>fiXz\*vur>[yztyvZv3

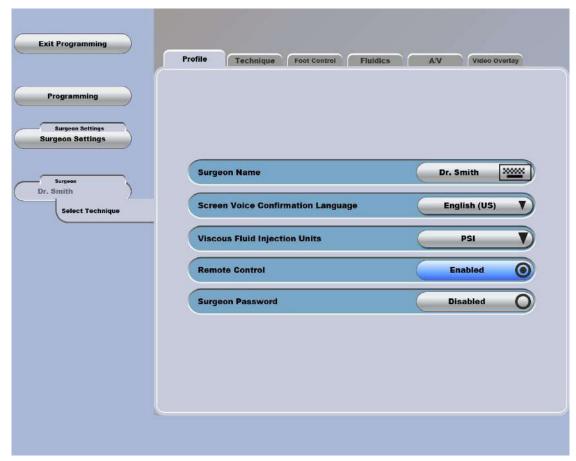


 $RzxJ < \psi \& 393 q \ \textbf{0.9jz-} \ \textbf{YSCNOzGB02V} \& \textbf{CBSjjY6V9} \ \textbf{BP2SSG3}$ 

#### LbMH64(fl05)v6MpRH14

### b MH64 Gt n 96&3

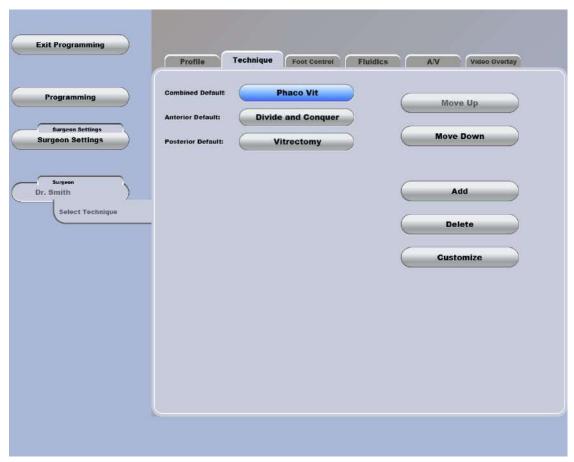
 $\begin{array}{l} \text{hfi tyr Yxv } \text{yv} = \text{J} \text{-avfiY,= Yr \&v r = fit } \text{zr} \text{-yu } [ \text{ zyr r = yzzyx = wzv1} \text{yv uvw } J > \text{= } \text{-avY r Yx J r xv1} j \text{ z= } \text{fiJ = R J zu } \\ \text{UVOt } \text{-xfiYi Yz=-dg } \text{U} \text{-dlr} = \text{r .1vYrs v fi<-uz=r s v } J = \text{v fiw} \text{-yv } \text{-avx fiy r fi r Yu = } \text{-avx fiy r fi r yv } \\ \text{7 2z USYCNO} \text{-fi Y > yv } \text{B0 2VSz G7 2z V2N - YV/ S1S^{12}BP2SSG} \\ \end{array}$ 



RzxJ<v@3 372z UYS\*CNOz GB02VSzG72z V2N - YGV BP2SSG3

C3P uVB[/jU[,]s/Sk/L M\*COa67ht

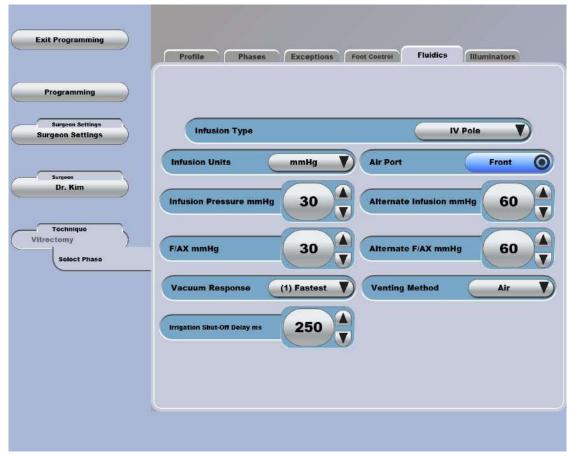
#### b MH64 (ft q'™508M



RzxJ<v@3 3 CSPWGY 0S CNOzGB02VSzG/ S1STY 2z V2N - YGV BP2SSG3

gJ∢vfiYXvZv d∢&r<"-U⁄≥vx∢⇒vu. Rfifi>NfiY≤fi 1R Jzuzt 1L4j rYu j zuvfi c Zv<r" ⇒>∞Yx=trYr =fi s v t fiY≤fi vu wfi& >yv t fi≪v=! fiYuzYx >rs 3gv vt>>yv ∢xy>!! fizY≥Yx r≪fi[ >fi =yfi[ >yv j zuvfi c Zv<r" >rs 3

#### Lb MH64 (fl05) v6MP p @HH4



RzxJ <v@3A3 q 09jz- YJS CSPWGY 0S BP2SSG3

- **72z USCNO**@ hvt yY2%J v b r &v1f v&fi>v NfiY>fi -PYrs v1Oz=rs v.
- **7 WWS9 CNO**@ Prt y >t y Y£% v &r " zYt Juv J! >fi vzxy>! yr ⇒3h yv **7 WWS9 CNO** =yfi[ =>yv Yr &v fiw>yv ! yr =v1r Yu >yv &fiuv wfi<>yr>! yr =v3dyr=v=tr Ys v ruuvuluv v>vulfi<<√2fi<uv<vu3h yv " &r " r =fi s v t J ⇒fi&z•vu1r=uv=t<s vu s v fi[ 3
- **s &PS®j¥C9 CNO**@ Prty >/tyY£%] v &r" zYt Juv J! ≯fi vzvyzţv] t v! >/fiY=1 vfi<r \*fi> fiwYfi &fi</r>
  ! yr=v=rYu v] t v! >/fiY=3P] t v! >/fiY=tr Y s v ruuvu1uv v>/u1fi<<√2fi<uv</u3h yv" &r" r =fi s v t J⇒fi&z•vu1 r=uv=t</s>
  s vu s v fi[ 3
- **72Y N2+ IyGSV2NSRM zzj q zG2z™CNO**@d<2&r<"-U½vx∢>vu. Rfif>NfiY>fi MJ>sfiY-9ç⇒rYur<u ⇒/>! J=tJ⇒sfi& ⇒/>x¥x=1vYrs v4uz=rs v Yv]>J>t=fiJYu &fiuJ r>sfiYfiY"r[1<vWJ] fiY"r[1<vWJ] \*"!v1 wZvu t firx!fi[vd zYvr<t firx ⇒/>J!
- t ™NYPOCNO@L=!zerzefiY>\*!v=-j rtDj rt a fiuv=!R fi[Dj rt a fiuv=!R fi[DR fi[ a fiuv=!R fi[DL &fiuv=!UXvJ=zfiYh"!v-Uj dfi vld<v=J <ol>
   vu.1UXvJ=zfiYi Yz>=-&&çTx fi<Na çT₁c..1UXvJ=zfiYa fiuv -a rYJr 1LJ>fi c YlLJ>fi c Ylc ww1Uj dfi v Tvzxy>j rtJJ&f v=!fiY=vlj vYzYx a vzyfiu -Lz<fi<R Jzu.1 U</li>
   vxxyzfiYgyJ>2c wvOv r"-&=!rYu d<v=J <ol>
   vu UXvJ=zfiYgv>zYx=3
- $y^{T}$  YS  $y^{2}$  CNO@ U J & zYr x fi YN fi Y x fi = -P Yr x vu 4O x r x vu .1 i !! v < r x! fi Y4 fi wwr Yu ! v x v Y x fi Y l r x v x v Y fi Y l r x v x v Y l "v fi [ .10 x ! fi Y fi z J x z Yr x i < fi Y x fi = -r Y x fi < x y Y x v fi! x fi Y fi Y ".

CSW uVB[/jU[,]s/Sk/L]

Rfi<t fi&s zYvu >xt y Yz% v=1 UVW =zfiYh"! v1 UVW =zfiYi Yz=1 R4L1 !<>= 4 \ldot 1 UVW =zfiY! \ldot =zfiY! \ld

Rfi<r Y>v<fi<>>t yY£% v=1>yv Yj dfi v T vzxy>=v>xYx r Yu d<>=d vu UYY=xfiY!

#### b MH64 (f05) n-yFFy5 d''TM7H65F

Mfizy dyr=v=rYu P] tv! zfiY=trYs v <vfi<uv<u rYu tJ>fi&z vu3g v vt>r! yr=v fi<v] tv! zfiY wfi& >v z>fiY>v r!! <d! <r> r!! <d! <r> r!! <d! <r> r> ys IrYu >v q 09jz- YS sJ>fiY[ z r!! vr<g v vt>q 09jz- YSIrYu &fi< fi! zfiY==v tzx fi yr> W Yt zfiY[ z r!! vr<rYu trYs v &fiuzxvu3h yv=v trYzYt Juv dyr=v UXvfi<xrzfiY172Y N2+ IyGjSV2NjSRM zzj q zGj2z <xr2Yx=1 R Jzuz=-L=! zrzfiYrYu UXw=zfiY.1i >r=fiJYu1j >vt<fi&"1rYu NfirxJ rzfiY=v>xfx=3k yvY "fiJ r<v ufiYv &r<2xXx tyrYxv=1=v vt>s &Y 72z V2N - YGV3h yv=">xwfi<y| zzYx3



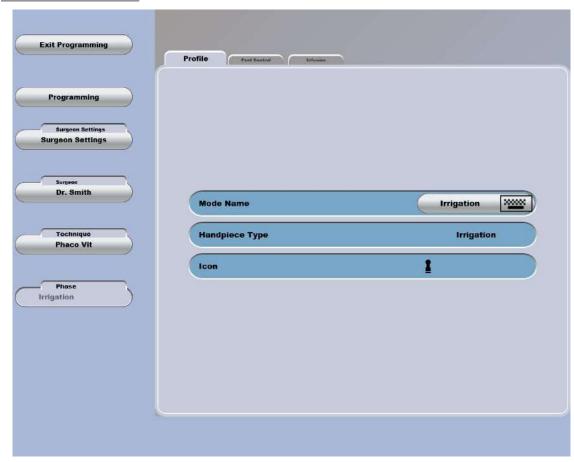
l 6HU



l 6HU

 $N \ HBS \ ``Uk / [B \ IS / S / S jB[IU] \ jB = HSIXkB2 / SAB jHB[ \ v \ H' = UU[ \ n[[5d]VVH']B2 jHB s \ UAB S/RB ] B jjISF x IILH' qB / A [UV AUx S R BSk x I jHABD kI; UV jIUS]4$ 

#### Lb MH64 (H05) v6MP p @HH4



 $RzxJ \triangleleft vx83B3 \mathbf{q} \ \mathbf{09jz} \textbf{-} \ \textbf{YS} \ \textbf{7} \ \textbf{VN9S} \ \textbf{BP2SSG} \\$ 

gv vt>q09jz- YJS1rYu &fi<br/>
yfi!>zfiY==!vtzwt>fi>yr>vJYt>zfiY[z r!!vr<lrYu trYsv &fiuzwvu3hyv=vtrYzMt Juvd<fiwzvld<br/>
zwt<br/>-Uzvx<l>vu. Rfifi>NfiY>fi lj rtJJ&1U/wJ=zfiYli 4g gv>zYx1i 4g k rZvwfi<br/>&1NJ>lNfirxJ r>zfiYrYu j z=t>xs3

k yzty >rs=r<v uz≓ r"vu uv! vYu=fiY[ yzty &fiuv "fiJ r<v zYlrYu[ yv>yv<NJ⇒fi&z•v gv>zYx=s" Nr⇒v z= uz=rs vu fi<vYrs vu1r=uv>rzvu zY>yv>rs v sv fi[ 3

. xvz	6Yh&rn05 EY™zvxk3-Y&z3®x)®YLL0k) 5q®zk&r	
b MH64 (ft p'H15) a ®b y F RYNO'SR		
L Yx <fi<j xi&"<br="" zxt="">dfi=x<fi<j td="" xi&"<="" zxt=""><td>d⊲fiwzvld⊲&amp;r&lt;"-UY&gt;xx∢r&gt;vu. Rfifi&gt;NfiY&gt;di lj rtJJ&amp;l UYwJ=zfiYlNJ&gt;</td></fi<j></fi<j>	d⊲fiwzvld⊲&r<"-UY>xx∢r>vu. Rfifi>NfiY>di lj rtJJ&l UYwJ=zfiYlNJ>	
dyrtfi R∢x	d⊲iw.vld⊲&r<'-UY>vx∢>vu. Rfifi>NfiY>di lj rtJJ&l UYvJ=zfiYli 4g	
UL	d⊲fiwzvld⊲&r<"-UY>xx∢r>vu. Rfifi>NfiY>di lj rtJJ&l UYwJ=zfiY	

C376 u VB[/jU], ] s / Sk/L

. xvz	6Yh&n05 EY™zvxk3-Y&z3®x)®/LL0k) 5q®:zk&
U≪xr≯fiY	d∢iwzv1d⊲&r<"-UYxx∢xvu. Rfifi>NfiYxfi 1UYwJ=zfiY
j z=t fiJ=R J zu NfiY≥fi	d∢ivzvld∢&r<"-UYxx∢xu. Rfifi>NfiYxfi 1j z≠t
jz=tfiJ=RJzuNfiY>-fi-OJr4mr[jrt=Js&fiuv.	d⊲fiwzvld⊲&r<"-UYxx∢xu. Rfifi>NfiYxfi 1j z≠1 jrtJJ&rYuUYwJ=zfiY
P]≯uv	d <fiwzv1d<v&r<' -u5="">vx&lt;&gt;&gt;u. Rfifi&gt;NfiY&gt;fi 1j rtJJ&amp;1 Nfirx -zwNfirx fiYmr[ z=vYrs vu.1U4y=zfiY</fiwzv1d<v&r<'>
XzYvr <nfirxj r="">fiY</nfirxj>	d∢ivzv1d∢&r<"-UYxx∢xu. Rfifi>NfiYxfi 1Nfirx
b MH64 (ft p'HH5) Fz ®b yF SGNO'SR	
P]×Juv	d∢iwzv1d⊲&r<"-UYxx∢xu. Rfifi>NfiYxfi 1Nr=v
dfi=>v <fi<j td="" z∞t="" ≯i&"<=""><td>d∢ivzv1d∢&amp;r&lt;"-UYxx∢xu. Rfifi&gt;NfiYxfi 1Nr=v</td></fi<j>	d∢ivzv1d∢&r<"-UYxx∢xu. Rfifi>NfiYxfi 1Nr=v
dyrtfi	d∢ivzv1d⊲&r<"-U⁄xx∢xvu. Rfifi>NfiYxfi 1Nr=v
Retx	d∢ivzv1d⊲&r<"-U⁄xx∢xvu. Rfifi>NfiYxfi 1Nr=v
UL	d∢iwzv1d∢&r<"-UYxx∢xu. Rfifi>NfiYxfi 1Nr=v

### TMM 5H®zxk yzKzE5zXXk)&

hfi rtt v=>yv =J < vfiY vZv =v > 2Xx=1xfi >fi >yv  $7 \times 2$ ZVZN - YGV gt < vY1>yvY=v vt> $B0 \times 2$ VSZGBSjjYGV91>yv Yr &v fiw >yv =J < v0fiY vz v >fi s v &fiu zvzvu 1>yvY  $\neq$  ZGYZ- 3

#### b MH64 (ft n 904 y 9\mathbb{R}. h5 H) 9y H / e 66Hb 65 H963

hfi &fiuzw yv >t y Y2/J v=r Yu =v>>yv d<2&r<'-U>>x< >u. Rfifi>NfiY>fi 1=v vt>>yv 72Y N2+ IyGSV2NjSRM zzj q zGj2zTCNO fiY yv B02VSzG/ SISTY 2z V2N - Y5V BP2SSG>mfiJ trY=v>yv d<2&r<'-U>>x<+>vu. Rfifi>NfiY>fi vfi<2xy>fi< vv>>vfifi>fi! v<1>xfiY3

h yv  $\mathbf{4}$  zRS  $\mathbf{q}$  WGWS  $\mathbf{q}$  zGj $\mathbf{2}$ zTM fi[="fiJ  $\Rightarrow$ i  $\Rightarrow$ > $\Rightarrow$ v p H3by 90Fd 30HY Zz=fiY v Yyr Yt v & v Y>=" $\Rightarrow$ v &  $\Rightarrow$ ! fiY=v [ yv Y  $\Rightarrow$ v Rfifi>d vur z=rt  $\Rightarrow$ Zr  $\Rightarrow$ u r Yu "fiJ t yr Yx v  $\Rightarrow$ J  $\Rightarrow$ xt r & fiu v  $\Rightarrow$ c!  $\Rightarrow$ fiY=r  $\Rightarrow$ L fi[  $\Rightarrow$ 2Xz& $\Rightarrow$ 2>d vur 1L fi[  $\Rightarrow$ 2 fi Y  $\Rightarrow$ v L t  $\Rightarrow$ Zv L fi Zv  $\Rightarrow$ 3 fix Yz  $\Rightarrow$ 4 fi Yz  $\Rightarrow$ 5 fix Yz  $\Rightarrow$ 5 fix Yz  $\Rightarrow$ 6 fix Yz  $\Rightarrow$ 7 fix Yz  $\Rightarrow$ 7 fix Yz  $\Rightarrow$ 8 fix Yz  $\Rightarrow$ 9 fix Yz

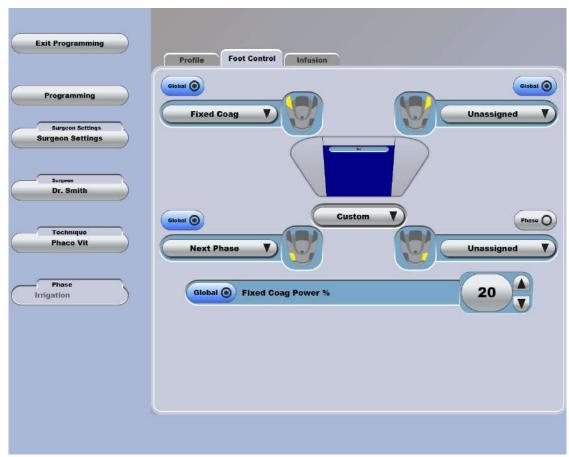
hyv **r SjSGj q z Gj2z**<sup>T</sup>Mv×v&zYv=[ yr>wvusrt Ω>yv **p H33y 90F d 30HY** Zz=zhiY v Yyr Yt v & v Y>=''⇒v & [ z xzZv [ yv Y t yr YxzYx Rhifh>d vur «vxzhiY=βh yz=t r Y s v Oz=r s vu 1 P Yr s vu vh< «vxzhiY=β17 qr Yu 8 h<P Yr s vu vh< «vxzhiY=β7 r Yu 8 hY"3

hyv **ASVž GBSji YGV V2OS9** t fi Y>fi r>[ yr>! v</br>

L  $sJ\gg fiY=uz=!$  r"vu yr>r fi[ ==v vtxfiYfiwdfi=xvxfi<a fiuv=fi<L Yxvxxfi<a fiuv=3k yvYdfi=xvxfi<a fiuv=z=v vtxu1xyv Rfifi>dvur vxxfiYxfi17 rYu vxxfiYxfi17 rYu vxxfi15 fi=vxxfi27 rYu vxxfi27 rYu vxxfi27 rYu vxxfi28 fi=vxxfi28 fiuv=fiwvxxfi28 fiuv=fixvxxfi28 fi=vxxfi28 fi=vxxfi28 fiuv=fixvxxfi29 rYu vxxfi29 fi=vxxfi28 fiuv=fixvxxfi29 fi=vxxfi29 fi=vxxfi20 fi=vxxfi29 fi=vxxfi29 fi=vxxfi29 fi=vxxfi29 fi=vxxfi29 fi=vxxfi29 fi=vxxfi29

#### Lb MH64 (H05) v6MP p @HH4

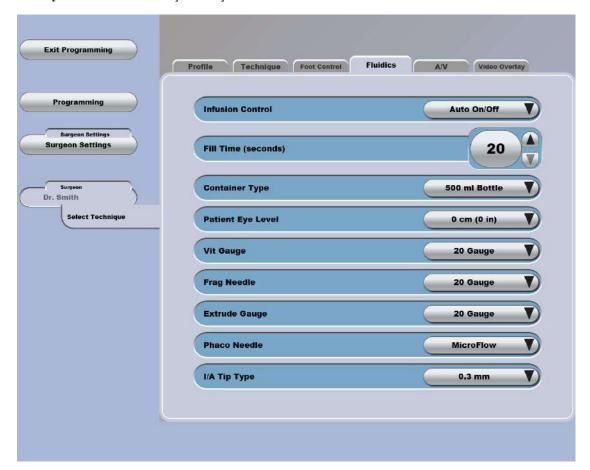
k yvYL Yx<fi<a fiuv=z==x vt xu1>yv Rfifi>dvur <xzfiY\f017 r Yu 8  $\Rightarrow$ x <! fi=zzfiY=r < ru $\oplus$ =x s v3h yv r Yx<fi< &fiuv  $\Rightarrow$ x <! fi=zzfiY=r < ru $\oplus$ =x v3h yv r Yx<fi< &fiuv=fiwxyv t fi&s zYvu ufi&r zY3



 $\text{RzxJ} \triangleleft \emptyset 3 \text{C3} \text{ q 09jz- YS 7 2Y N2+ IyGSV2NjSRM zzj q z G2z} \\ \text{TBP2SSG3}$ 

### b MH64 (ft e 3M) (FF

- yG009¥GqzGj2z™LJ≯ncYlarYJr1LJ≯ncY4cw
- $\mathbf{q} \mathbf{z} \mathbf{G}_{1}^{2} \mathbf{M} \mathbf{G} \mathbf{S} \mathbf{2} \mathbf{C} + \mathbf{e} \mathbf{S} -: 55 \mathbf{e} \mathbf{X} \mathbf{X} \mathbf{s} \mathbf{f} \mathbf{s} \mathbf{v} \mathbf{1} : 55 \mathbf{e} \mathbf{X} \mathbf{M} \mathbf{r} \mathbf{x} \mathbf{17} : 5 \mathbf{e} \mathbf{X} \mathbf{S} \mathbf{f} \mathbf{s} \mathbf{v}$ .
- $7N_j \%G_j s + S / S1S^{TM_{QV}} r \not Z Z x x x y v r = z x x x x Y ! fi \Leftrightarrow fi Y y v w J z u z = = "= x &.$
- **EY2SPjz- + u N) VS**-LY"175¢S r 178¢S r 17: ¢S r.
- **t 2NV 5 SSR'S'u N) VS** -L Y'175¢S r 178¢S r.
- s &j20 RS u NO VS -L Y 175 & r 178 & r 17: & r.
- **7 WNz 5 SSR'S**'-LY'1g≯Yur∢u1a zt∢iR fi[ 1a zt∢iR fi[ 01hyzYhz!1a UNg, 63Blj fi≪v]1a zt∢iR fi[ a UNg.
- ydb CYBC+BS-LY"1538c&&153c&&.



 $RzxJ < \sqrt{835}3q$  09jz- Y/S t  $\sqrt{9}$ YRYP9 BP2SSG3

### b MH64 Off WB . WM Ob B OFM 3

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— W"-fiY" Zfi J&v trYsv ru®⇒vu.
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— Xr⇒v<-fiY" Zfi J&v t r Ys v r u⊕⇒vu.
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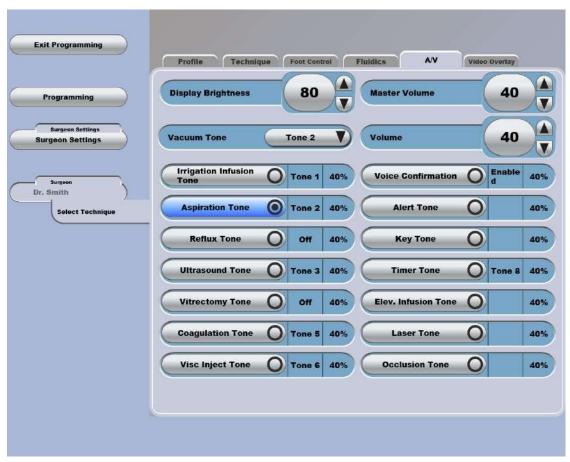
— j fizt v NfiYws&r>zfiY-PYrs vu fi<Oz=rs vu.



 $u SL" jUSB] jH'j/[BSU] \Rightarrow k[[BSjL" IS k]B: "/SUjHB[ IDS \Rightarrow jIUS x IIL: B/q/IIL: IB IDI] ]BIB \Rightarrow jIUS 4$ 



h IBq/jBA nSIR ]IUS2p B'2r/]B[/SA EI]=nSJB=j/[Bk]BA ID[vU]jB[IU[5f UR: ISBA]"]jBR] USU4-yjBIV[I]h IIjBG yp 9 er 7MMOO/SA yp 9 er 7OMOO



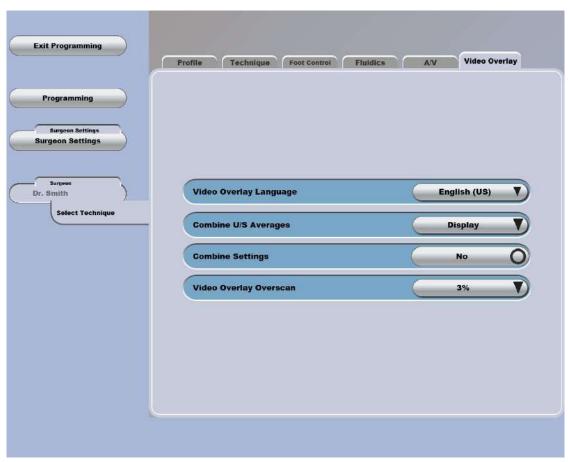
 $\label{eq:resolvent} RzxJ <\!\!\sqrt{8}3663 \mathbf{q} \ \mathbf{09jz} \text{-} \ \mathbf{VJS} \ \mathbf{0} \ \mathbf{0} \mathbf{RV} \mathbf{E} \mathbf{VON} \mathbf{BSjj} \mathbf{YSV9} \ \mathbf{BP2SSG}$ 

### b MH64 (ft s 0 '6 mV 93y®

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mfiJ trY⇒v vt>>yv rYxJrxv >fis v J⇒vu fiY>yv j zuvfic Zv<r"3

mfiJ trY⇒>>yvj zuvfic Zv<r" fiZv≪trY∢>v wfi& 5) >fi:) 3

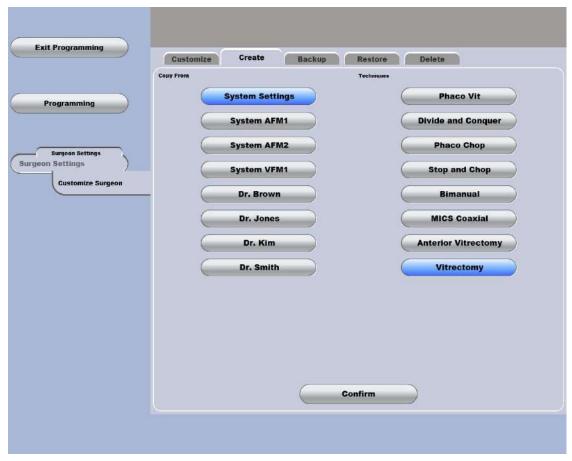


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### b 9'yH y l '" p'HH5) Fe B

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RzxJ<v¢83683**q 2SNjS 5 SX BSjjY5V9 t YS**'B**P2SSG**3

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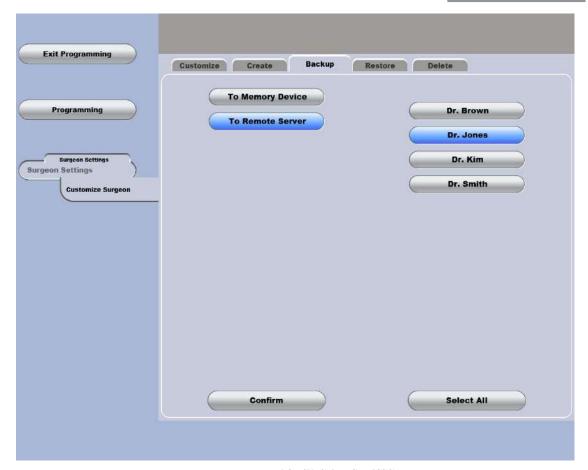
#### Lb MH64 (flb) v6Mp @HH4

### $ay^{T}$ yp' H b) Fe G'



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s BR U["ABqI=B] =UR VL'ISF x IjHBIjHB[ 9 ye 747 U[ 9 ye 845 ]j/SA/[A] / [B] kVVU[jBA: "jHB pH33y90Fd 3HY qI]IUS BSH/S=BR BSj]"]jBR 4u VB[/jIUS] x IjHUJHB[ 9 ye ABqI=B] / [Bl mq ]kVVU[jBA4



 $RzxJ <\!\!\sqrt{8}3593 \mathbf{p} \mathbf{N} \mathbf{k} \mathbf{0} \otimes \mathbf{B} \mathbf{S} \mathbf{j} \mathbf{Y} \mathbf{S} \mathbf{V} \mathbf{9} \mathbf{t} \mathbf{Y} \mathbf{S} \mathbf{B} \mathbf{P} \mathbf{2} \mathbf{S} \mathbf{G} \mathbf{3}$ 

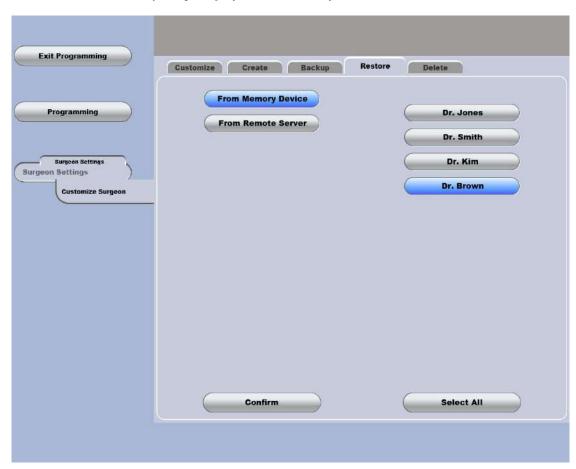
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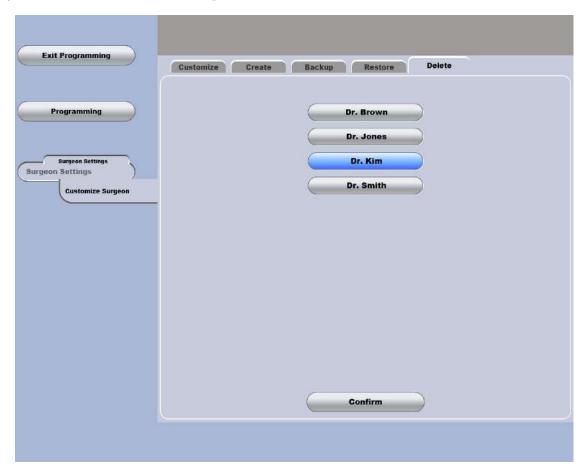
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RzxJ<vç836: 3AS9jz2SBSjjYGV9 t YS'BP2SSG3

### c '3' H y p'HH5) Fe B



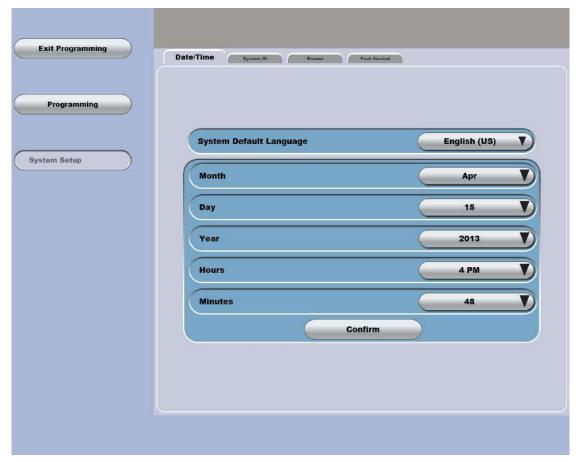
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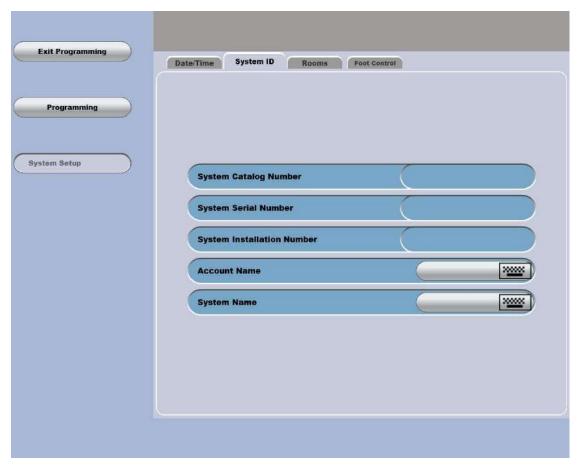


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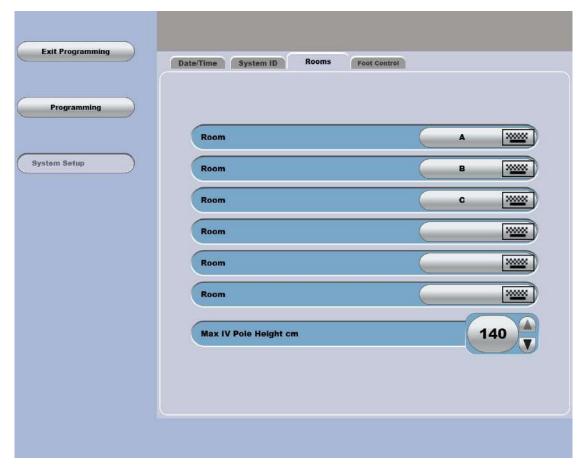
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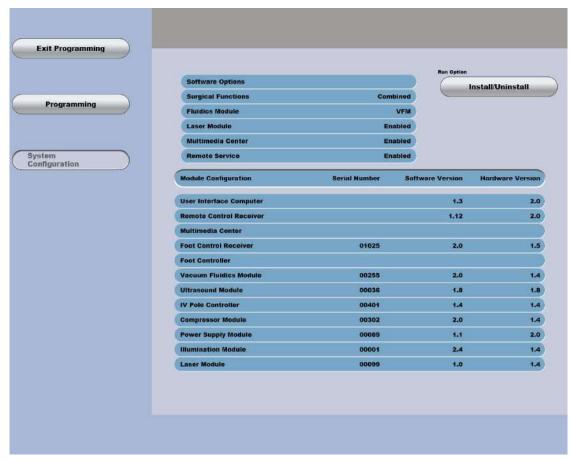
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 $RzxJ \triangleleft \sqrt{8}\, 37537\, \mathbf{2Y} \, \mathbf{N2} + \mathbf{IyG}\mathbf{SV2N}\mathbf{SRM} \, \mathbf{zzj} \, \mathbf{q} \, \mathbf{zG}\mathbf{2}\mathbf{z}^{\mathrm{T}}\mathbf{q} \, \mathbf{zGGSPj}\mathbf{Y}\mathbf{Y} + \mathbf{BP2SSG}\mathbf{3}\mathbf{z}^{\mathrm{T}}\mathbf{q} \, \mathbf{zG}\mathbf{SPj}\mathbf{y}\mathbf{y} + \mathbf{SP2SSG}\mathbf{3}\mathbf{y} + \mathbf{SP2SSG}\mathbf$ 

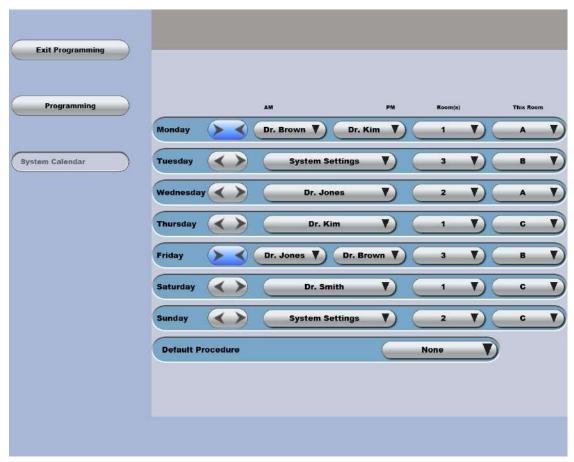
### TM3M 5™&XzL mxk(0) H®YX0xk



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RzxJ <vç83/73**B+9jS- q N/9GRN2 BP2SSG**3

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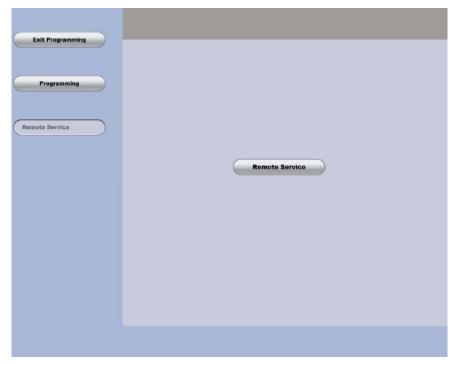
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 $\begin{array}{l} \text{hyz=wr} \ \exists \ \forall \ r \ \ \text{fi} [ \ = \text{Mr} \ J = t \ y \ \emptyset \ \xi \ \text{fi} \& s \ \Rightarrow t \ y \ Yzt \ zr \ Y = x \ \exists \ \forall \& \ \text{fi} \ \text{w} \ " \ rt \ t \ v = " \ \text{fi} \ J < = " \Rightarrow v \& \ 1 x \ \text{i} \ uzr \ x \ Y \ \text{fi} = v \ ! \ \text{dis} \ v \& = r \ Yu \ x \ ! \ \text{dis} \ v \& = r \ Yu \ x \ ! \ \text{dis} \ v \& = r \ Yu \ x \ \text{fi} \ \text{dis} \ v \& = r \ Yu \ x \ \text{fi} \ \text{dis} \ v \& = r \ Yu \ x \ \text{fi} \ \text{dis} \ v \& = r \ Yu \ x \ \text{fi} \ \text{dis} \$ 



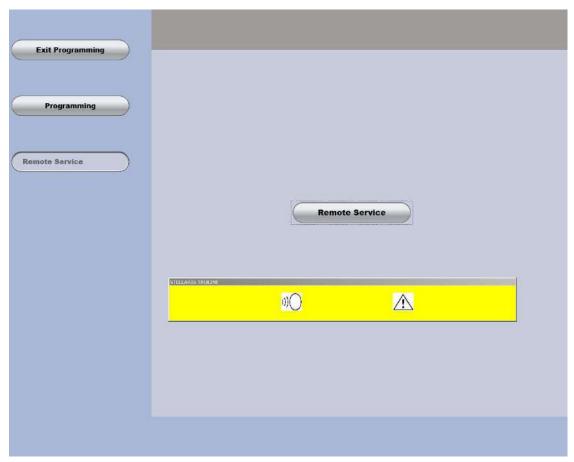
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 $RzxJ \triangleleft (83793q9M) 052Z \neq 09jz$ - S2 B0 @z2j 5 SjXz2x o PjYNjSR BP2SSG

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### Lb MH64 (H15) v6MP p@H14

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# Lb MH64 (H15) v6M9 p @H14

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## Lb MH64 (flb) v6M9 p @H14

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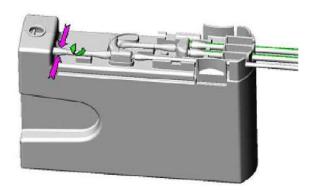
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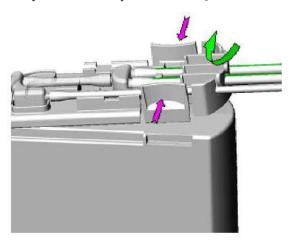
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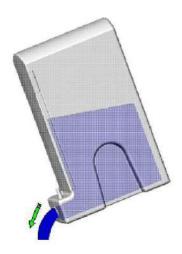
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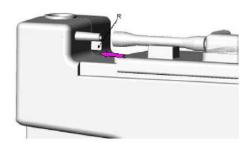
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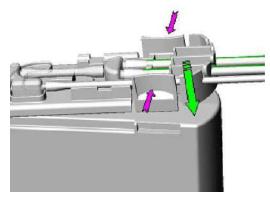
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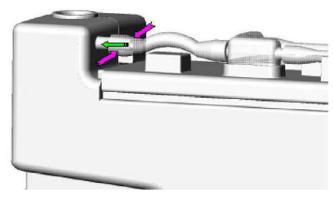
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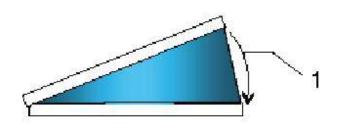


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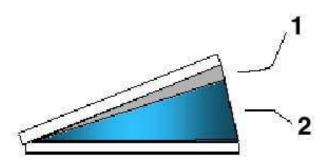
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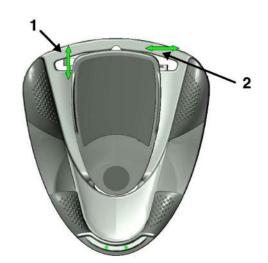
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 $RzxJ \triangleleft \sqrt{9}\, \overline{3}\, r \text{ WV2N} \quad 9 \text{WeXY5V}\, j Xz \text{ 2SVVeG@YPWPzGj2z}\, r \text{W22V2N} \quad - \text{ SR W2}\, r \text{ 0NV} \text{ YSN2}\, q \text{ 0}j3$ 

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hyvrt dr t d dr yr Yu Zrt dd dr dr yr Yu fi Y yv dr yv Rfifiod vur zerv vr dvu dr dr dr t v Y dr yv t d dr yr Yu Zrt dd dr yr yr Yu Zrt dd dr yr Yu Zrt dd yr Yu Zrt d yr Yu Zrt



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s / KB | k | B | HB V = K "Uk / | B k | ISF I | / VV | UV | I / | B ID I | | HB AUR / IS | BIB = | BA4

#### n6FH9069s (19) TH64 @p'HW v5 r F



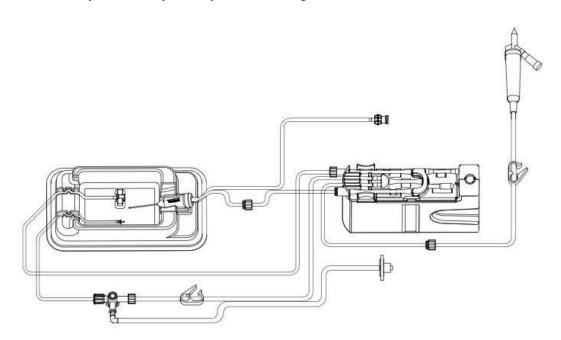
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- 63 NfiYYvt>xyv t fi&! <=vu r z<=fiJ < v xfi xyv t fiYYvt xfi<fiY xyv fi[ v<<r<fiwxyv ="=xv&3
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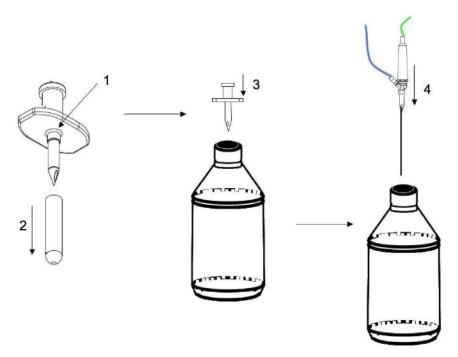
- 93 hfi fi! v∢x yv d⊲&r<' -Uxxx∢xu. Rfifi>NfiYxfi [zw v="1! √=r Y" s J>fiY fiY yv d⊲&r<' -Uxxx∢xu. Rfifi>NfiYxfi r Yu [rz>J Yzz yv ∢ru" zxy>J ⟨Y==fi zu x∢v Y3h yz=zYuzt r>=yr>[zw v=t fi&&J Yzt xxfiY yr=s vvY v⇒x s z=yvu3
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  - s3 hvr<fi! vY>yv h" $Zv\Omega=vr>fi[r < u>yv s fiu"3-Nz < Jr>zYx b J < v.$
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  - u3 UlvYzwt fifi=v t fi&! fiYvY>=wfi& >yv! <√2 fiYYvt>vu >ls zYx =v>ls -gt ds b J <=v.
  - v3 O $\triangleleft$ ! v >yv ="=>v& >r" r Yu =\  $\triangleleft$ vY[ zy u $\triangleleft$ ! v=!  $\triangleleft$ fiZzıvu3-gt  $\triangleleft$ s b J  $\triangleleft$ v.
  - W L  $\ll$  Yxv  $\gg$ v !  $\ll$ 2 fiYYvt  $\gg$ u  $\gg$ 1 s ZYx  $\implies$ 2 zy tr  $\implies$ 1 s fi $\gg$ v  $\Rightarrow$ 1 a2v1r  $\approx$ 3 s ZYx wz  $\gg$ <r Yu rt  $\gg$ 1 r  $\approx$ 6 Y t fiYYvt  $\approx$ 6 fi r  $\ll$ 1 xyv =4  $\approx$ 4 w fiY $\approx$ 6 h yv !  $\ll$ 6 ZYx t J!  $\approx$ 1 rt vu r  $\approx$ 7 yv fi $\approx$ 7 v Yu [ zy  $\approx$ 7 yv  $\approx$ 8 zYx  $\approx$ 7 zY  $\approx$ 8 zu u v r  $\approx$ 9 fi YzY  $\approx$ 7 v  $\approx$ 8 xu v fi 3 gt  $\approx$ 8 b J  $\approx$ 9.



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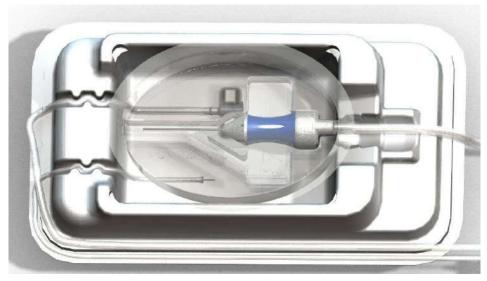
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- Ω3 NfiYYvt>>yv Zz∞vt λi&" rt λl r λfiY zYv -s J v ∞zl v. λfi λyv ="⇒v&3-gt d s b J ←v fi<Nz∢ J r λYx b L ←v
- &3  $dr = yv s fi \gg v = 120v r Yu x x x x x fi Y x s z Yx x fi N x d J r x x Yx b J <math>\Leftrightarrow v 3 gt d s b J \Leftrightarrow v = 120v r Yu x x x x x fi Y x x x fi Y x x x fi N x d J r x x x x b J <math>\Leftrightarrow v 3 gt d s b J \Leftrightarrow v 3$
- Y3 g! ZDv r Yu yr Yx ≯yv Mr r Yt vu gr >gfi J≯fiYs fi≫v fiY≯yv rJ≯fi&r≯u Uf ! fi v fi<>yv n vdi XvZv yr Yx v<zwJ = ZYx L RU3g %J vv•v r Yu ⋖ vr ⇒ ≯yv u <! t yr &s v<J Yz ⊅z= yr wwz vu [ zy =fi J≯fiY3 -Rfi<L RU⇒xJ! J ⇒ ≯yv = ZDZYx ≯fifi ! diZzuvu ≯fi! J Yt ¬J «>yv ¬J ss v<⇒fi!! v<fiY≯yv s fi≫v s vwfi </br>
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- fi3 f v&fiZv >yv > ! v fiY >yv ! <& zYx tJ! 3-gt < s b J <= v.
- $!3 \quad d \text{ rtv} > yv ! < \& zYx tJ! \text{ wr} > fiY > yv > t \text{``r} = zY > yv \text{ wx} J < v fi[ 3-gt < s b J < v.$



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C3 gv vt>yv vk $\Leftrightarrow$ s J $\Rightarrow$ fiY wfi& yv s **N9+72Y** S $\Rightarrow$  vt $\Rightarrow$ fiY &vYJ  $\Rightarrow$ fi ZY $\Rightarrow$ r yv rJ $\Rightarrow$ fi! <&zYx rYu Z $\Rightarrow$ vYt  $\Rightarrow$ fi<Nz<f J r $\Rightarrow$ YxYx b J $\Rightarrow$ v.



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OHB]"]jBR x IILSUj V[UqIAB DBBA: /=K/] jUx HBjHB[ U[ SUj DbkIA I] V[B]BSj Ak[ISF V[IR ISF4 nS]VB=j jk: ISF/SA =USD[R jH/j Ij I] DDIBA x IjHDbkIA/SA IDBB UD: k: : IB] / DDE[ B/ =Hv [IR B/SA OkSB4wBVB/j jHB V[IR ISF V[U=B]] IDjHB jk: ISF I] SUj / ABXk/jBL" DDIBA x IjHDbkIA4

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— UYarYJr UYWJ=zfiYafiuvlzYwJ=zfiYz=rt>zZr>vurYuuvrt>zZr>vus"J=zYx>yvsJ>sfiYfiY>yvSiU+dvvYfi<fiYvfiw>yvd<z&r<"-UY>vxd>vu. Rfifi>NfiY>di=|zxyv=r=zxYvuxfi>yz=wJYt>zfiY3d<y=zYx>yvwfifi>!vurzYxfi</ri>



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N HBS jHB ] "]jBR 1] IS s / Sk/ LnSIR]IUS s UAB2V[B]]ISF jHB i UUj v BA/ Lx IILSUj /  $\exists$  Iq/ jB / ]VI[/ jIUS4



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OHB]"];BR x IILV[IR B;HB IBD]/]V[[/jIUS IISB2[IFH;]/]V[[/jIUS IISB2±j]B[jB]; /SA ISD;]IUS IISB
/SA jHB = SSk IL/4n[[IF/jIUS x IIL: B]Hk; UDD/SA]UR Be/IL/S=BA y/I; y Ulk; JUS x IIL: B IBD; IS jHB
V[IR ISF = V/j jHB BSA UDV[IR ISF = B40HB]"];BR x IIL;[/S]I;JUS jUyk[FI=/L]=BBS4nS]VB=j
jHB ISD; JUS IISB jUBS]k[B I; I] DBB UDV I[:k:: IB]4nD;HB[B/[B:k:: IB] IS jHB ISD;]IUS IISB; JUFFIB
H990, y 1665 m5 DUR jHB]=BBS/SAj/V jHB IISB jUVk[FB I; UD;HB/I[:k:: IB]40Ujk[S I[[IF/jIUS
UDD;k]B jHB;k: ISF = L/R V U j UFFIB 1990, y 1665 m(( DUR jHB)=BBS4



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## t⊞HL 0kYX0xk pHkqX0xk C3x8Xz®0x®NmxL h0kzv nxL Y0kGx®i kXz®0x®nxL Y0k 0(x, X0xk 8z Ez qXzvF



t Wol H f U by 9' F 6M8 z' H2'5 H6 y V60 T65TM5 H9 H65) H' BBM4 (5y H65 6MFMH55 y F4 y By 9' y 6(H' 9' H65 y (69 M55' TMFH5 9BB796365)' 7' 906 F6(H4' 'A M H6 H' 76H5 H6 3) (69 7- 6H6H6" OF HED 5 F 906MF7' 94 y 5' 5 H15 IM GC



b Wr q hml U c 6 5 6 HMF 3y4 7 F 05 y4 7 36 TY NOS FAIG y9'y F 6(-0) - - M4 0 015A69 0( TOS '5 FY NOS 0F 312'3 B 16 - y V (694' B (69'"y4 73"A04 4' 0) H 3 B y (H 9 4 6 N 5) (964 y TO3 36 TY NOS 16 y "y 94 36 TY NOS C



b Wr ghml U c 6 56Hz 36T2 V V 5HC



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Prty r&! !diZav==zxy>" uzwwdY>z J&zYrzfiYlr Yu zyv tyfizt v fiw[ yzt y zfi J=v [ z sv uv! vYuvYzfiY s fizy  $\exists x$ vfiY!  $\forall x$ vwdYt v r Yu !dit vuJ  $\forall x$ ! v3h yv ] vYfiY r&! yr=r [ yzw< zxy>[ zzy r wf  $\exists x$ vt  $\exists x$ 3h yv ] vYfiY2 &vd J<" r&! yr=r x $\forall x$ vYv< zxy>yr>yr= v=s Jv zxy>t fiYxyY>yr Yzyv ] vYfiY $\exists x$ vt  $\exists x$ v ! v $\exists x$ v ! v $\exists x$ v ! v $\exists x$ v | v $\exists x$ v

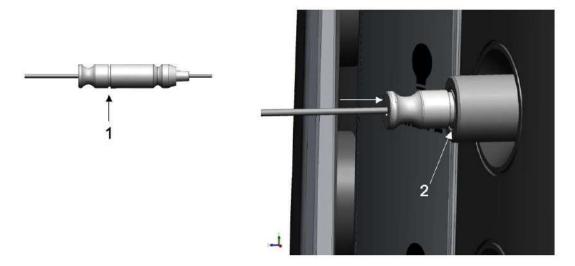
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- 63 i =zYx >yv a fi</br>
- 73 d dix d & & zyx > yv > t y Yz% v v Zv d d & c ' Uzvx d > u. Rfifi> Nfi Y > fi = v > zyx = 3
- 83 c Zv«zuzYx zyv >t y Y£% v vZv =v>zYx=fiY zyv ! yr=v vZv d<&r<''-UYzvx</r>
  = \times vYzY! \left ix \left \& \times ZYx r = fi3

## h33M4 05yH65 p'HM y5 rF

63 NfiYYvt>yv vs v<fi! >z J &zYir>fi<>fi >yv uv=zvu ! fi<-vv RzxJ <v;6379.3dJ =y >yv t fiYYvt fi<zYfi >yv ! fi</br>
J Yzz >yv x<fifiZv fiY>yv t fiYYvt fi<z=r zx Yvu [ zy >yv wfiY>=J <vv t v fiw>yv ! fi</br>
-gt <J s YJ <v fi<Nzd J r>Yx YJ <v.



 $RzxJ < \psi 3A3 \ q \ z \ GCSPj YGV \ UCOS2 \ z \ @j YP \ Pz \ GCSPj z 2 \ jz \ jV B \ Y''0^4 \ YGNj Yz \ G \ \&z 2j 3$ 

73 hfi  $\exists \forall z \ J \&z Y r \Rightarrow fi Y fi Y l \Rightarrow v t > y v c \ Y \&c w s J \Rightarrow fi Y w fi \&c y v = \Rightarrow v Y r = \Rightarrow v fi [ Y z Y \Rightarrow v w x J \lessdot v fi [ 3-g t \lessdot s Y J \Leftrightarrow v fi < N z 4 J r \Rightarrow Y X Y J \Leftrightarrow v.$ 



83 i =v >yv fiY=t <vYt fiY>fi >fi ru@>>>yv zYxY=>\*3



l 6HU

 $r/RVR/"j/KB]BqB[/LRISkjB]jU=URVIBjBjHBx/[RkV2:kj \neq S:Bk]BAUS=B/[BXkI[BAISjBS]Ij"H]:BBS/B/=HBA4$ 



*l 6HU* 

t BqB[ jk[S jHB IIIkR IS/ jIUS US / SA UID]/ VIAL'4

93 gv>yv z J&zYr>fiYfiJ>| zy yv J! 4ufi[ YsJ>fiY=zY>yv uz=! r" > sv3N ztΩfiY>yv r≪fi[ > fi zYt < vr=v fi<uvt < vr=v > yv fiJ> J> vZv 1 fi<t ztΩr Yu yfi u > fi < xv<t yr Yxv=3



1 6HU

yHUkIA jHBIIFHj ]Uk[=BIDILAk[ISFk]B2jHBUVB[/jU[Rk]j]]x Ij=HjHBID: B[UVjI=IIIkRIS/jU[jU jHBUjHB[IL/RVVU[j40HB:k[SBA3UkjIL/RV]HUkIA:B[BVIL]=BA:BIDI[BjHBSBzj]]k[FB["4

## h33M4 05 y H65 e 03H9 b 65 H63

hyv fi[ v < r &! yr = 8 fi! xfiYr wx x < xyr > tr Ys v J = vu 3

M' uvwJ >>yv vz><z=>>xi b fiYv3hfi tyr Yxv >>z=1vuz>"fiJ<=J<xvfiY!<vw</Ytv=vzv-=vv!rxv&266.3

 $\text{hyv fiJ} \not\ni \text{J} > \text{vZv} \implies \text{yfiJ u sv} \implies \text{zYrtt fi} \triangleleft \text{ur Yt v} \implies \text{xJ zur Yt v} \implies \text{yfi[YzY} \not\ni \text{vuv} \implies \text{z} \implies \text{xfiYfiY! rxv} \not\downarrow \text{2}; 3$ 

### i v47 i Q' b ® 3

L=>yv r&! rxv=lz=fi! v<>Yx Zfi >xv [ z Yr]< "zYt</ri>

rttv!>xs v vZv svvn
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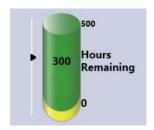
Uwyv  $r \& ! \Rightarrow \Omega v = fiYxv < yrYJ = Jr <math>fi \Rightarrow \Delta v | fi < wz = fi \Rightarrow \Delta v | yz = zYuzt r y = yv r \& ! z = Yvr < Yx yv v Yu fiwz zw r Yu r [ r < YzYx & v = r xv & r " r ! ! vr < fi Y > yv = t < vv Y3$ 

Prty r&! yr=r &r] z&J & YJ &s v<fiwyfiJ  $\Leftarrow$  fiw zwl r Yu yv = " $\Rightarrow$ x & [ z !  $\Rightarrow$ 7Zzıv r [ r  $\Rightarrow$ 7Yx [ yvY yr > z& $\Rightarrow$ z= Yvr $\Rightarrow$ r Yu rxrzY fiYt v yv z& $\Rightarrow$ yr=s vvY $\Rightarrow$ rt yvu3c Yt v yv z& $\Rightarrow$ yr=s vvY $\Rightarrow$ rt yvu1yv r &! [ z  $\Rightarrow$ 8 x zY fiY vfi< yv tJ  $\Rightarrow$ 8 v  $\Rightarrow$ 9 r fiYt v  $\Rightarrow$ 1 x Yvu fiw[ z Yfi>y| X| Xvu fiw[ z Yfi>y| X| Xvu fiw] z Yfi>y| X fiYrxrzY r Yu &J  $\Rightarrow$ 8 v  $\Rightarrow$ 9 r t vu3

hyv r&fiJ Y>fiw r&! zw <v&rzYzYx vfi<vrty r&! z=uz=! r"vu zY >yv y\*\*\*T**%**-! **XDJY:** G4 z 2S BP2SSGhyv uz=! r"  $\checkmark$ !  $\checkmark$ = Y>= yv  $\checkmark$ &rzYzYx yfiJ  $\Leftarrow$  fiw r&! zw3hyv S  $\checkmark$ vYr $\checkmark$ r  $\checkmark$ !  $\checkmark$ = Y>= yv r&fiJ Y>fiwyfiJ  $\Leftarrow$  fiw zw  $\checkmark$ &rzYzYx !  $\checkmark$ fi<xi >yv J= $\checkmark$ Yizwt r>fiY | yv nw fi[ r $\checkmark$ r  $\checkmark$ !  $\checkmark$ = Y>= yv ! fizY>yr> yv J= $\checkmark$ Yizwt r>fiY yr=s vv Y xZvYI &vr YzYx >yr> yv r&! yr=r =! vt zwt YJ &s v<fiwyfiJ  $\Leftarrow$ -6: . J Yz >yv zYuzt r>vu zxy>sJ s &J  $\Rightarrow$ s v $\checkmark$ ! rt vu3

#### / N= ®/ YS

1 vYfiY@955 yfiJ←lYfizwtrzfiYz=r>6: «V&rzYzYx yfiJ←fiwr&! zw 1 vYfiY2a v∢J<"@:55 yfiJ←lYfizwtrzfiYz=r>6: «V&rzYzYx yfiJ←fiwr&! zw



RzxJ<v;93C3/ N= ®/ YS yGRYPNjz23

## $j y 4 7 o' 73 y^{TM} 4' 5 Hh 96^{TM} MP'$



 $t \ \ \textit{Wolhl} \ f \ \textit{U} \ \ \ \textit{W3'y} \ \& \textit{FHM95} \ \textit{6}((\ \textit{H'}\ 76\text{``'}9\ \textit{FM73}\ \& 2\text{'}(69\text{'}\ y\ \textit{H14}\ 7165\text{'})\ \textit{H6}\ 9\text{'}73\text{y}^{\intercal M}\ \textit{H'}\ 3\text{y}\ 4\ 7F\text{H6}\ y\ \text{V60} \quad y5)\ '9\ \textit{6}(\\ z\ \textit{M5}\ \textit{FA'}\ 3\text{``TMO'MF}\ 6\text{``D}\ y5\ \ '\& \ y4\ y)\ '(964\ y\ \textit{9}\text{``M9})\ -\ \textit{HC}$ 



t Wol hl f U t 'y9' ® 796HTM65 "- '5 (5 HY3365) 69 9' 4 6V(5) 3y4 7HC



t Wolld f U c 6 5 6 H6MM H') 3y FF 3y 4 7 69 H' TEOTMH2 6y 9 Cg 63 H'y FF 4 z 3\mathbb{Q} 65 3\mathbb{M}z \mathbb{M}H' 6MH 9 4' H3 - 6MH5) C



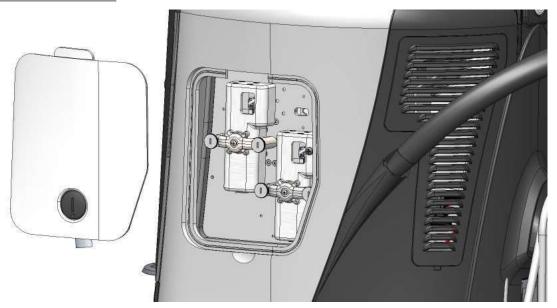
t Wol Hif U c 6 56H 967AF Yy H™A69 y 773® (69™ KG 3y 4 7Ay FH' - 0) - 79' HMD' (5 H) ' 4 y ® TYMF H' 3y 4 7 KG 9M' HUD' C



*l 6HU* 

OHBpH3y90Fd~30HY~qI]IUS~BSHS=BRBSj~]"]jBR~x~IILSUj~x~U[KkSIB]]~:~UjHURV]/[B~DjjBA~IS~VUL=B4nD"Uk~[BRUqB/~UL~RV~"Uk~Rk]j~[BVUL=B~Ij~x~IjH/SUjHB[~UL~RV~UL~jHB~]"]jBR~x~IILSUj~DkS=jIUS4

- 63 hi f b c RR h T P g mg h Pa 3k r ⊅75 ç&zYJ > = wh<>yv = ' ⇒ x & sh t fifi s v wh < r > x &! ≥ x r &! < v! r t v & v Y ≥ 3
- 73 c ! vY>yv r&! 2v! rt v&vY>rtt v=ufifi<fiY>yv =zuv fiw>yv JY>>s" ! rt zYx r t fizY fi<wr>yvru = 4[ u4Zv< zYxfi >yv = fi>r Yu >J4YzYx >>t fit  $\Omega$ [ z=43h yv ufi>=yfiJ u sv fiY>yv 4xy>l rYu >yv ufifi<=yfiJ u >yvY zw>fiw4



RzxJ<v;93653B+9jS- 9YRS X YW'N- ® NPPS99 Rzz 2 z ®SG3

- 83 UlivYzw zv r&! zyr><v% zv=<v! rtv&vYxDfi[ v< r&! GXr&! (6EJ!!v< r&! GXr&! (73
- 93 i Yufi >yv ≯ fi r&! w ⇒ x Yv ← s " x | «YzYx >yv ≯ fi >y J & s ≠ «√[ = t fi J Yx «2t fit Ω[ z=v3
- :3 Nr<vvV "!J >yv r&! yfiJ=zYx wfi& >yv JYz>rYu uz=!fi=v fiwrtt fi<uzYx >fi r!! ztrs v <xxJ r>fiY=3



*l 6HU* 

 $s / KB \ ]k \ [B j U A I] V U ]B U D ]HB U IA \ L'R V V [U V B [L'4r/R V] / [B ID IB A x I j H H IF H V [B]] k [B z B S U S F/] U z B S U S / S A R B [=k ["F/] B] 4 N H B S A I] V U ]I S F U D ]HB k ]B A \ L'R V 2 j / KB / V V [U V [I V ] B R B V ] k [B] IS = U R V II / S = B x I j H / V V II = : IB [B F k L' j I U S] [B F / [A I S F x / ] j B A I] V U ] / L 2 U B S j [k] j A I] V U ] / L = U R V | S "4 e B ] k [B j U = U R V L" x I j H j H B [B F k L' j I U S] IS "U k [= U k S j ["2] j / j B 2 [B F I U S U V [U 4 I S = B j U B S] k [B j H B k ] B A L' R V I] A I] V U ] B A U D I B F I L" / S A = U [B = ] L" 4$ 

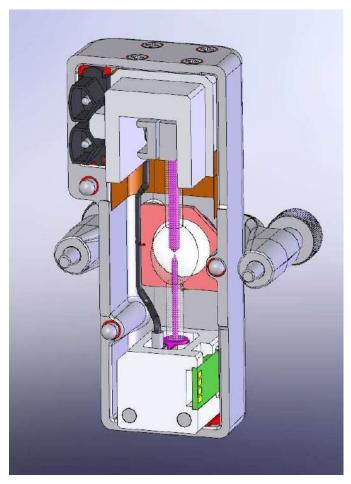
; 3 Uwzyv sJ s z==yr>w∢u r Yu x r==wrx&vY>=r∢ whJ Yu1t fiYzrt>M+ X =v∠Zzt v zh ∢v&fiZv zyv& zh ! ∢vZvY> ur&rxv zh zyv J Yzz3



RzxJ<\p3663BYRSzUjWB0GYXYWN @92S-z1SRaXYWN @F2PNj\GNGRz2YGGNj\G9W\XG



RzxJ<v93673/ **N** @wz09**Y5Vs &j\$2¥2**3



 $RzxJ < \sqrt{935}83 / \ N \ @wz09YSVyGjS2Y23$ 

- C3 L zxYzyv <! rt v&vY> r &! yfiJ = zYx [ zy zyv yfi v | z ΩzYx t r </br>

  xYzyv t fiYYvt zi <= fiYzyv zi! 2zxy> r Yu s fizzi & z vvet fi
- 653 dJ=y >yv <v! rt v&vY> r&! yfiJ=zYx ws& "zY5fi! rt v3
- 663 gt  $\triangleleft$ [  $yv \nmid$  fi r &!  $w \Rightarrow yYv \Leftarrow t$  fit  $\Omega$ [  $z \Rightarrow yYz \Rightarrow xy > -yyJ \&s = ! \triangleleft ! = 3$



#### t Wolhl f U ohpi me Wob dunmprod C

- 673 f v! rt v >yv ufifi<s vvfi</br> v r!! "zYx ! fi[ v<>fi >yv =" $\Rightarrow$ v&3a r\Ov =J<v >yv ufi>z=! fizYzYx ufi[ Yl zYuzt r\zYx >yr>>yv ufifi<z= fit\Ovu3
- 683 hJ∢YfiY≯yv = "⇒y&3
- 693 Nyvt Ω>yr>>yv Yv[ r&! z=<vt fix Yz•vu3



l 6HU

## pEHO/Ni O®o@q-Yk)z CpNi DF C3x8Xz ®Ox®2kE™F

hyv R Jan4LzcP] tyr Yxv w Yt zfiY! diZanv=t fiYzyI fiJ=rzcwfi[ wfi&r! YvJ&rzt!J&! fit r>u zY>yv t fi&! <=fi>h yv rzcfiJ > J>t fiYYvt zfi<&J >> v J=vu zY>yv! fi=>v<fi>& fiuv wfi<R Jan4LzcP] tyr Yxv3Lzcz=wzv<u zydiJxy r uz=! fi=rs v wzw3hyv d<&r<'-UYxx<zwu. Rfifi>NfiY>fi=znv sJ>fiY&r'' s v! dix<z&vu zfi zJ<YR Jan4LzcP] tyr Yxv c Yfi<c wilder

## e 3MD DWD d "TMy5" 'm7'9y H65

hyv R J zu4L zcP] tyr Yxv & fiuv z=r ! fi=>v</ri>

### fi=>v
### fi=>v</

## e 3M0 DW0 d"TMy5)' p'HM'y5 r F

hyv R Jan4L z<br/>P] tyr Yxv  $\exists$  s zYx z=r Y zYzvx  $\blacktriangleleft$  >u !r  $\Leftrightarrow$  fiwyv !  $\lessdot$ 2 fi<br/>Yyt  $\forall$ u  $\exists$  s zYx  $\Rightarrow$ > fiwyv p H3y 9Fd 3HY<br/>Zz=fi Y v Yyr Yt v &v Y>=' $\Rightarrow$ v & !  $\Leftarrow$ t v UJ  $\Leftarrow$  ! rt  $\Omega$  hyv w Yt  $\Rightarrow$ fi Y =yv  $\Rightarrow$ z = Yv r  $\Rightarrow$ fi J  $\Leftrightarrow$  v r z=fi J  $\Leftrightarrow$  v r z=fi J  $\Leftrightarrow$  v r ZvY> $\Rightarrow$ y v r z<br/>! J &! z=r  $\Leftrightarrow$  r u" fi Y w fi < L RUr "fi J Yvvu  $\Rightarrow$ fi u fi  $\Rightarrow$ fi r t  $\Rightarrow$ Zr  $\Rightarrow$  R J zn 4L  $\Rightarrow$ P] t yr Yx v z=f  $\Rightarrow$ t y yv 72 r"  $\Rightarrow$ fi! t fit  $\Omega$   $\Rightarrow$ r > r yvu  $\Rightarrow$ fi yv zYw =fi Y t r YYJ r 3

- 63 gvJ! >yv=">x& vfi<! fi=xv<fi<Zz>vt >fi&" -=vv!rxv\Q2A fi<t fi&s zYvu =J<xv<" -=vv!rxv\Q2 8.3
- 73 gv vt>yv c Y4c wwsJ $\gg$ fYxfi y4c Yrx! J&! 3-gty5 YJ $\Leftrightarrow$ v fiy7x YJx4v.



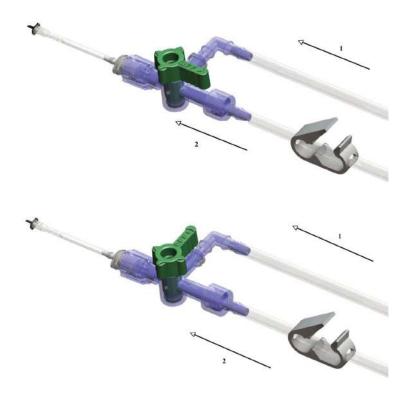
l 6HU

N HBS jHB VkRVI]  $jk[SBA\ US2jHB/I[\ V[B]]k[B\ SkR\ B[I=AI]VI_U```x\ III_j[/S]IjIUS\ jU]HUx\ /<math>\Rightarrow jk/L$   $V[B]]k[B4N\ HBS\ j$ HB VkRVI]  $UIDD_j$ HB  $AI]VI_U```ISAI<math>\Rightarrow j$ B] jHB  $V[B]B_j$ / $I[\ V[B]]k[B4$ 



 $RzxJ \triangleleft \emptyset 36930 \ \textbf{V2SSG2YGV} z \textbf{GjVB} \textbf{ 6} \ \textbf{Gd} \ \textbf{UU9X} \textbf{YPWYCRYNJS9} \ \textbf{N2} \ \textbf{@0-} \ \textbf{@WV9} \ \textbf{OSSGj02GSR} \textbf{z} \textbf{G} \\$ 

- 83 gv vt>yv J! 4ufi[ Yr $\ll$ fi[ =xfi tyr Yxv xyv rx!  $\propto$ =J $\propto$  fiJxJx3-gtx5 YJx4 fixNx4 J rxYx YJx4.
- 93 hJ $\Delta$ Yyv Zr Zv fiwyv  $\Rightarrow$ fi! t fit  $\Omega$ fi  $\Rightarrow$ fi! yv wfi[ fiwz $\ll$ xr $\times$ Yx  $\Rightarrow$ fi J $\times$ fiYr Yu  $\Rightarrow$ r $\leftrightarrow$ yv wfi[ fiwr $\times$ r= $\Rightarrow$ yfi[ YzY RzxJ<v>93: - $\times$ fi! .3-gt<s YJ<v.



RzxJ <\p\$.3 CWS gbXN+ 9jz®PzPx PzGj2z™UU ®PRcb ½ s &PWWGVS3 Cz®n6 Gbo ½ U2X9 YGjz S+S3 pzjjz- n6 Ubt ®PR U2X9 YGjz jVS S+S3

63;Lz373;Mr rYt vu gr >gfi J>fiY3

### 6YL, xkYvz

## WD qy 4 765y,

k yvY>yv wJYt>zfiYz=vYrs vu1r Zfiztv t fiYwz-&r>zfiY[ z =fiJYu rYu rYv r!=vu>z&v t fiJY>v<[ z sv uz=! r"vu zY >yv=J<xztr =t<vY3

M888 u VB[/jU[,] s /Sk/L

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L Zfizt v t fi Yws&r>zfi Y wfi< x &! fi Yruv u J <>zfi Y[ z sv ! <fi Zzuvu r>fi Yv &zYJ >> zYxv <zr =3L sv [ z sv =fi J Yuvu r> 85 ç=vt fi Yu zYxv <zr =3k yv Y o TyyGUz=uz=rs vu fi< yv R J zu4Lz<P] t yr Yxv v Zv z=<vu J t vu sv fi[ >yv x &! fi Yruv v Zv 1r Zfizt v t fi Yws&r>zfi Y[ z =fi J Yu r Yu >yv x&v<[ z sv t vr<vu w fi & yv =t <vv Y3



 $RzxJ \lessdot \emptyset \ 3 \ B0 \ 2 VYPN VPP 2SSG RYP VPH 9 \ s \ VSI \ Nj SR \ y G00 9 V G Pz \ Gj 2z \ VPJ Nj 09 \ 6 \ 5 \ MNGR \ j Y \ S23$ 

## e 3MD qy4 765y '

gz&zr<xfi >yv Lz<xr &! fiYruv1R Jzu x &! fiYruv z=r wJ Yt >zfiY[ yv<\ri>yv wJzu zYwJ=zfiY! <\ri>y \ri>y \ri>

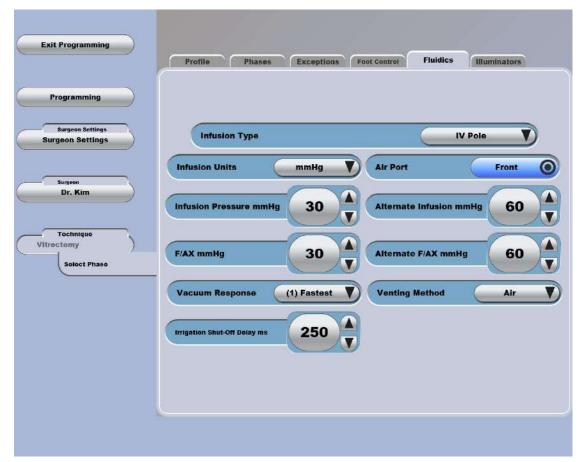
hyv R Jzu hr &! fiYruv wł Yt zfiY &r "sv vYrs vu s" zyv o JyGUc Y4c wws JzfiY fiYzyv uz! r"1 fi<zyv d «&r "-Uxxx xwu. Rfif>NfiYzfi = zty zwzz=! dix x & wu zfi fiYzfi zyv P vZr zwu UW =zfiY3Lu @=zYx Uj dfi v rs fiZv Bóţ & [z r = fi vYrs v v vZr zwu zYw] =zfiY3h yv z &! fiYruv! =v = J <v z=uz=! r"vu zYzyv = J <v zr = 4 <v Yr Yu &r "sv ru @=zwu s" =v vt zYx zyv YJ &v zt! <v = J <v z=uz=! r"vu zYzyv = J <v zr = 4 <v Yr Yu &r "sv ru @=zwu s" =v vt zYx zyv YJ &v zt! <v = J <v z=v zzvu fi<zyv Uj !fi v z=ru @=zvu rs fiZv zyv !dix x &v v x z= 4 zzvu fi<zyv Uj !fi v z=ru @=zvu rs fiZv zyv !dix x &v v z x !fiYruv v z z 3

k yvYzyvwJYtzfiYz=vYrs vu1r ZfiztvtfiYwz&rzfiY[z =fiJYurYurYvr!=vuz&vtfiJYx<[z svuz=! r"vuzYzyv=J $\propto$ ztr =<vvY3

L ZfiztvtfiYws&r>fiYvfi<x&!fiYruvuJ<r>fiY[z sv!diZzuvur>fiYv&zYJ>zYzvZr=3L sv [z sv=fiJYuvur>85ç=vtfiYuzYzvZr=3k yvYo]\*yGUz=uz=rs vufi<>yvRJzu4Lz<P]tyrYxv vZv z=<vuJtvusvfi[>yvx&!fiYruv vZv1r ZfiztvtfiYws&r>fiY[z=fiJYurYu>yvx&v<[z svtvr<vuwfi&>yv=<vvY3

k yvYo TyyGUz=xfixx vu fiwntyv rz<!  $\checkmark$ =J  $\checkmark$  rYu Uj ! fi v [ z sv = $\checkmark$ >xfi yy Zr J v  $\supset$ yru !  $\checkmark$ fi <xfi >J  $\checkmark$ Y2Yx o TyyGUfiYlr Yu yv >x&v<[ z sv t vr  $\checkmark$ u wfi& yv = $\checkmark$ vY zwyv !  $\checkmark$ =J  $\checkmark$  =>xYx >z= $\checkmark$ uJ t vu sv fi[ ; 5 &&T x -B6 t & T  $_{\sim}$ c  $_{\sim}$ 3

hfi! dix d & yv P vZr >vu zYvI =zfiY! <v=J <v vfi<L z<hr &! fiYr uv r Yu R J zu hr &! fiYr uv Exfi >fi >yv hvt y Yz//J v ! dix d & & zYx vZv R J zuzt = xs xfi = v>uv =z<v ! <v=J <v -=vv ! r xvç82A 3M' uvvv J >J >yv ! <v=J <v z==v>r> B5c& T x r Yu 655 q & 3



RzxJ<\@36A3C\$PVC\$Y 0S @2z V2N - Y5V \\$1ST\F \PORYP 9P2\$SG X YVWo Y2 NCR t \POYR CN @z CNR\$ 9\$jj Y5V93

#### 806gxH8rpEHOv mxkX9xE03pmF03x8Xz90x82kE"F



t Wo l Hl f U q-'s OFFOMFe 3MD b 6519630F56H151H5 ' (69 y F709y 1065 6( a y 3y 5  $^{\text{TM}}$  p y 3Hp 63M1065 C



t Wol hl f U pM.9'H5y3T $\sqrt{55}MyFy9'56H5H5'$ ; (69yF70yH656) VIFTOMF(3MD 69ay3y5TM py3Hp63MH65C

 $\begin{array}{l} \text{hyv} \textit{pH3y9Fd3HY} \quad \textit{Zz=fiYvYyrYtv&vYz=':=x}\&,=j \text{ z+ fiJ}=R \text{ Jai NfiYzfi} \text{ vH Yt zfiY xvYv<x=zyv < \% \text{ z>v zY0t zfiY!} < == Yu r=! \text{ z+ zfiYZrtJJ}&= \text{vfi<zY0t zYx} \text{ Zz+ fiJ}= \text{wJ au}= \text{xi r Yu r=! z+ zYx} \text{ Zz+ fiJ}= \text{wJ au}= \text{wfi& yv v''v uJ} < \text{xv} \text{ ! fi=xv} < \text{fi<=xv} < \text{xv} \text{ yz+ div} = \text{xv} \text{ xi yv j} \text{ z+ fiJ}= R \text{ Jai vH YtzfiY} \text{ z uv } \text{ Zv<J! xi A73 $\psi=x -: 55$\phi\text{ur 1}: 35\psi x < \text{fiw! YvJ} & x \text{xz}! < \text{y=1} < \text{xi xy v uz! fi=x v } \text{xv} \text{xv} \text{xv} \times \text{xv} \text{xz} \text{xv} \text{x$ 

## s OFT & MF e 3MD b 65 1963 p 'HM y 5 r F Uh5 l' TH165

- 63 c!vYrNl: A75 uz=! fi=rs v!rtΩrYu! rtvtfiYxvY>= fiYr ⇒x<zv=J <wtv3
- 73 NfiYYvt>>yv fit ΩzYx rz<t fiYYvt ≯i<fiYyyv ≯ szYx ⇒v>xi yv **pH3y90Fd3JHY** = ''⇒v&-'xi! <∞xy>t fiYYvt xi

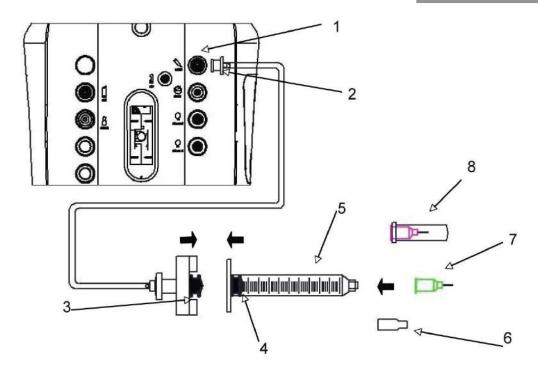
  RzxJ <∞6379.3</td>
- 83 Nfi YYvt >>yv = "<" Yxv t fiJ! v<fiw>yv j z=t fiJ=R J zu > J s zYx > fi > yv = "<" Yxv wz vu [ zy = z zt fi Yv fiz 3h[ z=> yv t fiJ! v<>fi fit Ω z=> t J 
   " > fix yv = "<" Yxv -= vv RzxJ < φ 3.6B.3</td>



# t Wo l hl f U d 5 FMP' y z 3y T2 70F465 0F65 H' FSO5)' z'(69' TO55' TH5) H' FSO5)' TOM3'9 H6 H' FSO5)' (B3' "OH FBOT05' 6BCE y BMP' H6 6 F6 "B3") MF 7y H6 5 H5 IM3C

- 93 g fi[ "'x|<Yxyv="<YxvJ![ r<u=fi xyr>xyv x! !fizYx=xfi[ r<u xyv t vz zYx1r fi[ zYx rY" rz<xfi &fiZv xfi xyv x! zYfiYv t fiyv=zZv sJss v3

- A3 hfivZrtJr×rz<wfi&>yv='<\(\alpha\)Yxvlyfiu>yv='\(\alpha\)YxvZY>yvJ!\(\alpha\)xy>!fi=\(\alpha\)fiYrYurt\(\alpha\)Zr\(\neq\)fi[\(\alpha\)Y\(\alpha\)t\(\alpha\)fiY\(\alpha\)t\(\alpha\)fiY\(\alpha\)t\(\alpha\)fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)t\(\alpha\)fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(\alpha\)yv\(\alpha\)!fi\(\alpha\)yv\(
- B3 f v&fiZv  $\gg$ v trYYJ r t fiZv<s v $\sqrt{y}$ i<v J $\Rightarrow$ 3



RzxJ<v@35B3E**Y9Pz09t TOYR yGsPj\GBSj0**®

63j z≠fiJ=R Jzu dfi<373jLz<hJszYx NfiYYvt≯i383jNfiJ! v393jdz≠fiY3:3g"<ZYxv[zy gzztfiYv c z 3;3g"<ZYxv Nr!3A3j6Cx U30tzfiYNrYYJ r -wfi<zY0tzfiY.3B3j6Cx P]>ctzfiYNrYYJ r 3

## s OFT & MF e 3M0 h51' TH65 m7' 9y H65 k 6 'F

#### t YASR t TOTR y GVSP j YE G

#### / YGSN2 t TOYR yG\SPjYEG

Nfi Y>fi fiw zYvr < wJ zu zY0t >fiY z= Zzr >yv Rfifi>dvur 3h yv zY0t >fiY! <>=J <> zYt < r=v=! <fi! fi<=zfiYr >fi Rfifi>dvur >r Zv wfi& >yv &zYz&J &! <fix < &&vu =>>>ZYx >fi >yv &r] z&J &! <fix < &&vu =>>>ZYx3h yv &zYz&J & r Yu &r] z&J &! <fi>x < yv >zYx3h yv &zYz&J & r Yu &r] z&J &! <</ri>

#### r ONAKNX ENPI/ YSN2 t TOTR yGSPJY/Ga/ YSN2 ENPOO- M

#### o@X®YqXOxk

#### Nc 'HOB' o'('9'5TM

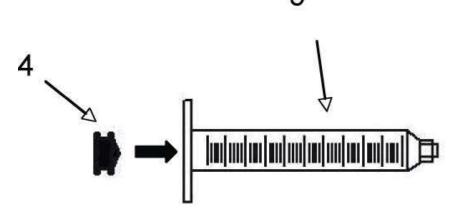
- 73 NfiYYvt>yv fit ΩzYx rz<t fiYYvt xi<fiYyv x s zYx ⇒>xi yv **p H3y90Fd 3H**Y = '⇒x& -xi! <xy>t fiYYvt xi

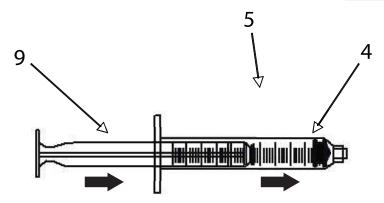
  RzxJ <√6379.3</td>
- 83 f v&fiZv  $yv = \text{``} xv \text{ tr! -} zv \text{\&c}, \text{ fiwRzxJ} xy 93/6.3-a J \Rightarrow s v ufiYv s vv fix <math>\Rightarrow v! y = \text{``} xv \text{ fix} y \Rightarrow v \text{ ufiYv s vv fix}$
- 93 drtv yv srtΩ! z=fiYzY5i yv ="
  '
  Yv sr
  r Yu J=v yv ! J Yxv<xi ! J=y yv ! z=fiYr yv [r" ufi[Yxi yv x] fiwyv = "</p>
  Yxv3-f vw<xi RxJ</p>
  Q36Cr Yu RxJ
  Q3753



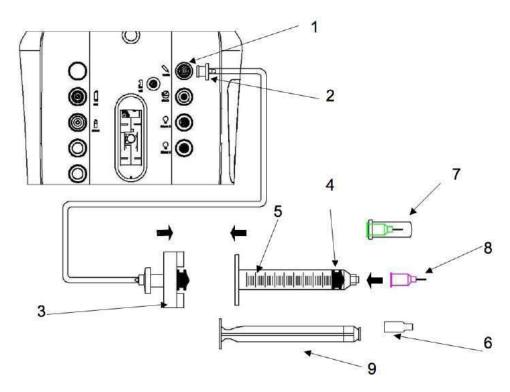
t Wol hl f U d 5 FM)' y z 3y T 2 70F46 5 CF (6 H' F 5905)' z'(69' T 655' T 745) H' F 5905)' T 6M/3 9 I6 H' F 5905)' C ey (2M)' I6 6 F6 "(BS T YMF" (3M) I6 z' y F7 (Dy H) (5 I6 H' F 574) 4, F' 3 T 1965 (T M 64 765' 5 HC)

- : 3 NfiYYvt>yv = 4xvv + fiJ! v + fiwyv + fiJ = R Jzu + s zYx + fi yv v + fiJ! v +
- ; 3 NfiYYvt>>yv v] >rt >fiYYvvu v >fi >yv ="<2Yxv3hyv 6CqxrJxv ⇒vv Yvvu v z=∃zxs v vfi<>yz=r!! ztr>fiY3
- A3 f v&fiZv  $\Rightarrow$ yv tr YYJ r t fiZv<-B. s vvfi $\triangleleft$ v J $\Rightarrow$ 3
- B3 gv vt>**EYPPs &j2NPj** wfi& yv gJ<xxtr gt<vvYq T**2Px 4 SO**0 xfi! v<xfi& yv j RN v] xrt xfiY! <fit vuJ<v3





 $RzxJ < \psi 9.3753 \\ E VPPz 0.9 t VPPx 8 & Sj2NPj V:GBSj0 \\ D9S & VPCNS2 ImMz & 0.9 \\ VPPz GIhMz j VFSGRz UjVFS- & F+9+2YCNS Ii M$ 



RzxJ<v93763E**V9Pz09t TOTRs &j2NPjV:GBSj0**®

63.j z=t fiJ=R J zu dfi<373.L z<h J s zYx NfiYYvt xid883.NfiJ! vd93.tdz=fiY3: 3.P&! x' g "<2/xv 3; 3.g "<2/xv Nr! 3 A36Cx hvwfiY Nr YYJ r 3B36Cx P] > t xfiY Nr YYJ r 3C3td J Yxvd

## 806qxH&pEHOv o@X®/qXOxk 2, z ®/XOxk . xvz&

#### t YSSRs &j2NPj

u VB[/jU[,] s /Sk/L M8a

#### / YSN2 s & 2NPj

P]><t>fiY>=f tYfiYz=t fiY>fi vu Zzr >yv tvYx<Rfifi>dvur 3h yv v]>fiYz=tJJ& zYtfiY==!<fi! fi</tr>fix==!<fi! fi</tr>fix==!<fi>fi</ti>fix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fifix==!<fi>fifix==!<fi>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fi</ti>fifix==!<fi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fifix==!<fi>fi</ti>fi<trfi>fi<trfi>fifix==!<fi>fi</ti>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fifi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fi<trfi>fifi>fi<

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 $g \ k[ISF/S"kIj[/]USI=V[U=BAk[B2RBj/LV/[jI=IB]R/"[B]kIj IDUR IS/AqB[jBSj jUk=HSF UD]HB kIj[/]USI=jIV x IjH/]B=USA IS]j[kRBSj4d SUjHB[VUjBSj1/L]Uk[=B UDRBj/LV/[jI=IB][B]kIjISF IDUR/S"kIj[/]USI=H/SAVIB=BR/": BjHB[B]kIj UDkIj[/]USI=BSB[F"=/k]ISFRI=[U/:[/]IUS UDjHBkIj[/]USI=jIV4$ 

#### (e.9v) 4'5HH65k6'F

hyv **pH3y9Fd3HY** ZzzfiYvYyrYtv&vY>='=x&!<fiZzuv=\{ fi R<rx&vYzzfiY&fiuv=[ zy ru@=xs v J >r=fiJYu!fi[ v<rYu ZrtJJ& tfiY>fi 3f vw<xi>yv xs v fiY!rxv&28Bvi<zYvi&rxfiYfiY;yv rZrzrs v ZrtJJ& <fxv rYufi!xfiY=fiYJ >r=fiJYu &fiuJ rxfiY=3Ovxzvu uv=<!xfiYfiwi >r=fiJYu &fiuJ rxfiY==Jty r=dJ =v1MJ crYuOJ>\*N"t vr<!<fiZzuvu zYxyv i >r=fiJYu RJYtxfiY==xtxfiYfiwiyz=tyr!x

#### / YSN2 t 2NV

#### r ONWX DBt 2NV

## e 9y) 4 '5 H H 65 p' H M y 5 r F



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v[IU]jU]BjjISFkVi[/FRBSj/jIUS2jHBpH33y90Fd3HYqI]IUSBSHS=BRBSj]"]jBRH]jU:B]BjkVDU[vU]jB[IU]EIj[B=jUR"U]fUR:ISBA]k[FB["4"]



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 $yVB\!\!=\!\!ID\!\!=\!\!IS]j[k\!\!=\!\!\!jIUS] \ I\!\!D\!U[ \ \!\!=\!\!\!IB/SISF/SA]jB[III''jIUS \ IS\!\!=\!\!\!IkABAxIjH/H/SAVIB\!\!=\!\!\!BU[/=\!\!-B]]U["j/KBVIB\!\!=\!\!\!\!BU[/=\!\!\!BU[/=\!\!\!AU]]U["j/KBVIB\!\!=\!\!\!\!BU[/=\!\!\!AU]$ 



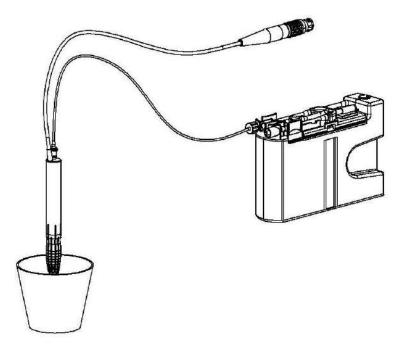
t Wol Hif U W366F 5'' 3' 4 y®3'y Ho 04 7967'9 HV505) y5 TVM8 TYMF F' 05) 6(4'H3(9y)4'5 HF05H6 H''' '® A"-0 M TY5 9' FMH 15 F 906MF7'94 y5'5 H7yH6 5 H5 IM9C

- 63 gvJ! >yv="=xx vfi<!fi=xv<fi<Zz>vt xfi&" -! rxvQ2A fi<t fi&s zYvu =J <xv<" -! rxvQ2 8.3
- 73  $PY=J \Leftrightarrow yv = \Leftrightarrow vYz=uz=! r"zYx yv d < 2 & v4h J Yv gv > 1! = \Leftrightarrow vY3$
- 83 NfiYYvt>yv yr Yu! zvt v v vt $\rtimes$ t r tfiYYvt $\rtimes$ i< $\pi$ i yv t fiYYvt $\rtimes$ i<fiYyv &rt yzYv3-gt ds YJ  $\Leftrightarrow$ v fi<Nzd J r $\rtimes$ Yx YJ  $\Leftrightarrow$ v.
- 93 h y < r u r Yu vz & " =vt J <> yv =zYx v J =v wt x & v Yz >zfi Y Yvvu v fi Yzfi >yv wt x & v Yz >zfi Y yr Yu! zvt v J =zYx r Yvvu v [ < v Y y 3-gt < s YJ <= v.



*l 6HU* v/=KSkR: B[ e r O8TOx UkIA: B/VV[UV[I/jB IDI] k] B4

- :3 NfiYYvt>yvt vr<r=|zr|2fiY zYv|x|2yv wrx&vYzr|x|6fiY yr Yu! zvt v3-gt|x|5 YJ|x|0.
- ; 3 Tfi u yv yr Yu! zvt v [ zy zt  $\exists$  s & v < xvu zYxi Mr r Yt vu gr > gfi <math>J > xfi Y3 gt d s YJ < v.
- A3 gv vt>**72Y SdCS9j DdB** ≯i zYzzr≯ yv rJ≯i! <&zYx rYu ≯J Yv J ≯t =fiJ Yu ⇒√3 vYt v3T fi u yv yr Yu! zvt v J Yz ! <&v4∃ Yv tfi&! vx=rYu yv = '⇒x& ≯t Y=zzfiY= ≯i yv **B02VYN \*BP2SSG**3-gt ✓s fi<Nz∢ J r≯Xx YJ ←v.
- B3 gv vt>t 2NV- zRS wfi& >yv q  $^{T}$ 2Px 4 SOO >fi ! v</br> yv wfx&vYx>zfiY! <fit vuJ </td> y3-gt y5 fi<Nz</td> y7 z7x y7 z8 z8



# UNTM i kXz ® x ® pHk qX0x k&

#### t®O) YXOxk

UszrzfiYz=!r<fiwyv wJ zuz =="=x&1! fiZzuZYx t fiYzYJ fiJ=wJ zu wfi[ xi t fi&! vY=; w wfi<wJ zu r=! zszu fiJ>fiw yv v"v3UszrzfiYfiY4fiwz=t fiYzfi vu s" yv !zYt y Zr Zv1[ yzt y z=fi! vYvu [ yvYzyv Rfifi>dvur z=! <=vu r Yu t fi=vu [ yvYzyv Rfifi>dvur z=<vu r=vu3

LYUkoxrzafiYafiY" & fiuv z=rZrzrs v1zY[ yzty żyv Rafifi>dvur tfiYzdi = zeczxrzafiYfiYafiwashyv **t Y\*\*p0jjz**GfiYżyv B02VYN BP2SSG fi! vY=żyv zeczxrzafiYtfiYzdi Zr Zv wi<75ç=vtfiYu=żi wtzzrzeti vtzafiYfiwzeczxrzafiY=fi JzafiY zYżfi r = J<zatr tfiYzrzYv3

## t®O) YXOxkNi & O@YXOxk pHkqXOxk CtNi F



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g USUj VkILjHBjk: ISFj/kj  $^{TM}$ Ij Rk]j : B/IILK BAjUH/qB/A[UWU[]/F : Bjx BBS jHB =/]]BjjB/SAjHBH/SAVIB=B4



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 $N HBSBqB[jHB \neq ]]BjjB I] BJB \neq BA IQUR jHB ]"]jBR = US]UIB2 KBBV jHB H/ SAVIB=B/: UqBjHB IBqBLUD jHB \neq ]]BjjB VU[j4$ 

h yv LuZr Yt vu j rt JJ& RJ Yt  $\Rightarrow$ fiY!  $\triangleleft$ fZuv=Zrt JJ&  $\lor$ Zv =  $\lor$ fi& 5\&&T x  $\Rightarrow$ fi ; 55\&&T x  $\Rightarrow$ fi x  $\Rightarrow$ fi Y  $\Rightarrow$ 

UYUL &fiuv1z≪xr≯fiYz=rt≯Zr≯u zYf vxzfiYç6 fiwRfifi>dvur ≯rZv 1rYu s fi≥y z≪xr≯fiYrYu r≓zr≯fiYr√v rt≯Zr≯u zYf vxzfiYç7 fiwRfifi>dvur ≯rZv 3

## by7FMB n630F

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### s OFT & 3 HOT & '4 6 W 3

hyv Zz± fiv r⇒zt <v&fiZr wJ Yt >zfiY! <fiZzuv=uzww</y>=v>zYx=wfi<>yv ufit >fi
sv t J⇒fi&z•vu >fi r fi[ % zt Ω vY>< zYxfi r =! vt zwt Zrt J J & vZv r=v]! rzYvu zY Nyr! >v<83

MBC8 uVB[/jU[,]s/Sk/L]

#### s'5H5

#### $o \circ M'$

L=! z<rb/>c>zfiYfiwwJzu xfi xyv tfi vtxfiYtr=>>x fittJ</r>
Zzr xyv yr Yu! zvt v r Yu r xJs v =>x3f vwJ] r!! zv=r &fi&vYx
4Zv
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y<fiJxy xyv r=! z</p>
zfiY zYv xfi t vr<xyv r=! z</p>
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hyv **pH3y9Fd3HY** ZzzfiYvYyrYtv&vY>=">x& z=uv=xYvu vfi<J=v[zy t fiYzYJfiJ=<vwJ] fi<!J=vwJ] 3Uv vYrs vul>yv <vwJ] wr>d vz=rt>Zr>vu s"zY] r<u &fiZv&vY>fiw>yv Rfifi>dvur zYr r=!z<u>zfiY&fiuv=3

#### qzGjYG0z09ASU04&

f vwJ]  $! \checkmark = ! \checkmark z = sr = vu fiY z < xr > fiY! < v = J < v3$ 

#### 70T9S ASU04&

f vwJ] z=t<r>»u s" yv &fi&vYx<" rt>Zr>fiYfiwr! JYxv<fiYyv<vwJ] sJ s3

 $dJ = v \cdot v \cdot J$ ] z=fiY" rZrzrs v [zy t fi&s zYvu t r=v > v fiY"3]

#### $s y^{T}MM o'F765F$

j rtJJ& <= fiY=v <vw <= fi >yv r&fiJ Y>fiw>&v v % zevu xi fis x zY yv uv=zevu r=! zet zfiY vZv 3L w >> v=! fiY=v Zr Jv zY>Jv == fiZ yv == fiY=v Xxyv == fiY=

#### n 904 y 9\overline{\text{R}}.h5 \text{H}) 9y \text{H} \ / e 66\text{Hb} 65 \text{P9636} (h990) y \text{Hb55 DMF7 Oby Hb55}

L=>yv Rfifi>dvur z=zYzər "! <v=>vu1>yv z<zxr>zfiYt fiY>di Zr Zv [ z fi! vY>fi r fi[ z<zxr>zfiYzYsfi >yv v"v3

UwYrs vu1rYrJuzs v zYvr<xiYv[z zYuztr>vr=!zstxfiY3hyv!zstyfiw>yvxiYvzYt<\ru>r=!zstxfiY3

### h990) y H65 DWF7 ODy H65 p' HM



t Wol Hif U e 69 67164 M4 y F7 (Dy 1665 y 5 9' (3M' 7' 9' (694 y 5™AH' 7y 1675 HF')® 3' V 34 MHL' y HH' Fy 4' 3' V 3y F. 56 4 69' Hy 5 RJ™4 w LJ65 6: (964 / H') p H3y 90 Fd 30 HY W H65 '5- y 5™4' 5 H® H14, F y F7 (Dy 1665 76916 e y (BW) H6 (636" H 0F796™ MD' 4 y ® 9' FM H15 F 906 MFy 5 7' 94 y 5' 5 H7y H6 5 H (6 100 GC)



t Wolld f U WHMP' H'-y5 70 TM y5 yTMMH690 Fy9' HH900ft z'(69' MF yFF7' TQ(0' C



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- 63 hJ < Y dfi[ v < fi Y 3
- 73 d⊲=rY"sJ≫fiYfiY>yvd⊲&r<"-U\Svx∢>vu. Rfifi>NfiY>fi rYu[rz>JYz >yv⊲ru"zxy>J<Y=fi zu x⊲vYlzYuztr>Xx[zwv=tfi&&JYztr>fiYyr=svvYv⇒xs z=yvu3
- 83 gv vt >B02VSzG95 N SrYu =v vt >qzGV2- 3
- 93 c!vY>yv uzdfi=rs v!rtΩrxvrYu zY=v<>yv wJzuzt=tr=v>wr >yv [r"zYrYu yfi u JY>z z>z= rJ>fi&r>ztr "tr!>J<vu s">yv="=>x&3hyv tr=v>w yfiJ=zYx srtΩzxy>[z ⇒fi!s zYΩzYx rYu <v&rzYfiY [yvY>yv="=x& tr!>J<v=>yv tr=v>x/3
- :3 Lvav<>yv Zrt J J & >v⇒t fi&! v>v=l>yv BSj0®BP2SSG[z uz≓ r"[zy 72Y S NGR C0 GS r=>yv yzxy zxy>vu wł Yt >zfiY3
- ; 3 g! x0v ×yv Mr r Yt vu gr >gfi J>xfiYt fiYx zYv<r Yu yr Yx z>r>>yv uv=zvu yvzxy> dAAIjIUS/L]jBV IDV[B]]k[I"BA ISIN]IUS I] k]BAb
  - $f \ USSB=j \ jHB \ d \ I[\ Ok:\ ISFr \ ISB \ jUjHB \ qBSj \ VU[j/j \ jHB:\ UjjIB\ ]VIKB/SA \ jHB \ UjHB \ BSA \ x \ IjH/I[\ DUjHB \ jUjHB \ pH33y90Fd \ 30HY \ /I[\ UkjVkj = USSB=jU[4yx \ Ij=HUS \ jHB/I[\ VkR V \ IDUR \ jHB \ ]"]jBR \ ]BjkV]=|BBS -k \ ]BjHB \\ =USj[ULIS \ jHB \ kVVB[\ [IFH] \ H'SA =U[SB[\ UDjHB \ ]=|BBS.40 \ HB \ UkjVkj =USSB=jU[\ x \ IIL[BR/IS \ IIj \ x \ HBS \ Ij \ I] \ /j \\ =URR/SABA \ V[B]]k[B2/SA : IISKUS/SA \ UDDx \ HBS \ Ij \ I] \ SUj/j \ jHB =URR/SABA \ V[B]]k[B4$
- A3 NfiYYvt>JszYx xfi xyv UL yr Yu! zvt v=3gv vt>BWZX 4 SBjS® vfi<r Yz&r xu =vJ! xJ zuvl zwYvt v=r<3
- B3 PY=J<br/>
  yv z<br/>
  z<br/>
  zrzfiYt r&! z=fi!vYrYu xfixx v y22WNj YG6 UUxi z|<br/>
  yv yv wfi[ fiYrYu r fi[ z<br/>
  zxrzfiYxi vz yv zJszYx J! xi yv yrYu!zvt v=3
- C3 Rz  $\Rightarrow$ yv  $\Rightarrow$ t yr &s v<[  $\Rightarrow$ y  $\Rightarrow$ xexr  $\Rightarrow$ Yx =fi J $\Rightarrow$ fi Yl $\Rightarrow$ yv Y=zuv fiZv< $\Rightarrow$ yv  $\Rightarrow$ ! fiw $\Rightarrow$ y yr Yu! zvt v3
- 653 gv vt>**72Y S6 G**+BL ZrtJJ& >>>z=!r\$fiw>yv!<2&zYx t"t v3
- 663 Lvxv<=Jttv=xvJ !<&zYx rYu >JYzYx1>yv a rzYgJ<xztr gt<vvY[z sv uz=! r"vu3

hyv v] ><\frac{1}{2} t fi&! fiYvY=fiw"fiJ<="=x" \dagger Vfi \quad \text{Yri} \quad \text{Vfi} \quad \text{Yri} \quad \text{Vy} \quad \text{fi} \quad \text{Vy}



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m ULA j HB H/ S AVIB=B j IV j Uk / [A] j HB =BILISF x HIIB V [IR ISF j HB I[[IF/j IUS IISB j UBS]k [B/ IL/ I[ H/] : BBS | BR UqBA4

#### tNi 78z

- 63 gv vt >>yv UL &fiuv fiY >yv q T2Px 4 SQ03
- 73 i  $\Rightarrow yv \Rightarrow xx$  x fis  $v = xi \Rightarrow yv$  uvx = xv ux = xi x = xi x = xi x = xi
- 83 hyv="⇒x&z=Yfi[ <ru" \ni<U<zr>zfiY4L =!z<rzfiY3



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 $yBBfHVjB[-\ThetaID[=IB'SISF/SA]jB[III''/jIUS[BXkI[BRBSj] x HBS]k[FB["I]=URVIBjBA4]$ 

#### 7 EX®Y &x Hkv pHk qXOxk

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## r 319y F6M5 n6"'9

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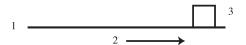
#### nMF k 6 'r 319y R6M5

 $hyv !J \Rightarrow \checkmark x t fi Y \leq fi u fiv = Y fi > ru \oplus \Rightarrow yv J \Rightarrow fi J Yu ! fi [v \leq h yv t fi Y \leq fi ru \oplus \Rightarrow yv Y J \&s v \leq fiwt "t v = fiw J \Rightarrow fi J Yu ! fi [v < yr > fit t J < u J < yx r fi Y v = v t fi Y u x &v z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y x < z Y$ 

## a MPHk 6 'r 349 R6M5

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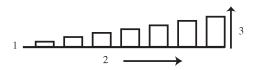
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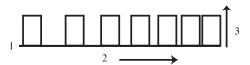
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## c 'FT9071665 6(r 319y16M5 k 6 'F

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# p(6) 3 j 65'y9r 319y F6M5 k 6'" (IH e 0" WF7 09y H65

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i ><=fiJ Yu!fi[v<z=rt>Zr>vuzYf vxzfiYk8 fiwRfifi>dvur ><ru>vZv3L Yfi>yv<&fi&vYx<"zYt<ru>vZx ZY Rfifi>dvur</ru><=z>xYtv[z svYfi>vu-zwuv>yY=rvYrsvu. =xxYz\(\frac{v}{z}\) xyv >Y=zxfiY wfi& fiYv f vxzfiYxfi >yv Yv] >

⇒r<fiwJ >d=fiJ Yu!fi[v3i >d=fiJ Yu!fi[v<[z svzYzzr>vur Yut fiY>fi vur=r wJ Yt zfiY fiwRfifi>dvur >dzvzY f vxzfiYç83h yv Yv]>J >d=fiJ Yu∃s & fiuv &r "sv=vvt>vu-zwvYrs vu. s" & fiZzYx >yv Rfifi>dvur zY >yv fiJ ≯r <u "r[uzvt>zfiY3

# p(b) 3' j (b' y 9 r 319 y R6M5 k 6' "OH j (b' y 9 WF7 O9 y H65



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nD] ISFIB U[ RkLiJIVIB: k[]j R UAB I] ] BIB=jBA2VU]IjIUS-C-U[ Ukjx/[A "/x R UqBR BSj. AUB] SUj=USj[ULkLij[/]UkSAVUk B[2: kj [/jHB] jHB: k[]j ISjB[q/L-D0] RkLiJIVIB: k[]j. U[ SB/ [L" DRILJ][/qBL ISIJI/jB] / SA[B]B] JHB] ISFIB: k[]j-JBBV/FBA4BCa. 4

# c My3j 05'y9r 319y16M5 k 6'" (IH W1709y1665 05 vy".e0" k 0504 M4 s y TWM4 05 o') 065 [I/

c Yt v zezxrzfiYyr=s vvYzYzzrzu r Yu zyv Rfifi>dvur yr=s vvYuv! <=vu r!! <fi] z&rzw" wZv uvx <v=-fi<r=! <fi>x &&vu. 1r YzYt <vr=v zYRfifi>dvur <v==xYYtv [ z sv Yfizu =xYzwtzYx zyv zx Y=zzfiY wfi& f vxzfiYç6 zi f vxzfiYç7 r Yu zyv =x <pfiwr=! zztzfiY3h yv &zYz&J& =v>r=! zztzfiY[ z sv uvZv fi! vu zYf vxzfiYç73XzYvr < r=! zztzfiYzh zyv &r] z&J& =vzYx [ z sv tfiYzfi vu s" fiJ > r <u "r[ Rfifi>dvur zztz 3hyv = <v Y[ z uz=! r" zyv rtz]r r &fiJ Yzfiwr=! zztzfiY3

# c My3j 05'y9r 3EGy F6M5 k 6'" (IH WF7 ODy F655 05 vy" y5 j 05'y9 WF7 ODy F655.j 05'y9s y TWM4 05 o') 065 [I/

i ><=fiJ Yu!fi[v<z=rt>Zr>vu zYf vxzfiYç8 fiwRfifi>dvur ><zv 3L Yfi>yv<&fi&vYx<'\* zYt <r⇒ zY Rfifi>dvur </=>
<=z=x Yt v [z s v Yfi>vu =x Yz\ti zYx >yv >x Y=zxfiY wfi& fiYv <xxfiYxfi >yv Yv] >| r Yu >yv =x <=fiwJ >x =fiJ Yu!fi[v<]
XzYvr<J>x=fiJ Yu!fi[v<] z s v zYzxxxvu r Yu t fiY>fi vu r=r zYvr<wJ Yt >x fiY fiwRfifi>dvur >x Zv zYf vxxfiYç83



nD]ISFIB U R k LijIVIB : k[]j R UAB I] ]BIB=jBA2VU]IjIUS-C-U Ukjx / [A "/ x R UqBR BSj. AUB] SUj =USj[ULk Lij[/]UkSA VUx B[2: kj [/jHB] jHB : k[]j ISjB[q/L-IDJ R k LijIVIB : k[]j. U[ SB/ [L" ID;ILj[/qBL ISIjI/jB] / SA [B]Bj] jHB ]ISFIB : k[]j4

# c My3j O5'y9r 399y R6M5 k 6' "OH WF709y R655 O5 n OHM

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XzYvr<J>t=fiJYu!fi[v<[z svzYzzr>vurYutfiY>fi vur=r zYvr<wlYt>zfiYfiwfiJ>{r<u"r[Rfifi>dvur>tZvzY !fi=zzfiY;73

# c My3j 65'y9r 349y16M5

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# n-y TO'4 MBRO&TYHB5 p'HM



t Wolhl f U l'V 9 05 H5 H65 y 33  $\otimes$  4 6 Q( $\otimes$ - y 5 70  $^{\text{TM}}$  F69 H07 FAFM  $^{\text{M}}$  y F 6 56 Hz' 5 A  $^{\text{TM}}$  H69 '5) 9y V Ay F H'  $\otimes$  T 6 Mb z 9' y 2 69 4 y 3 M5  $^{\text{TM}}$  H65 C





t Wo l hI f U W366F 5'' 3' 4 y  $\otimes$ 3' y H6 04 7967' 9 HA5 (5) y 5 TOMS TYMF F.' (5) 6( 4' H3(9y) 4'5 HF (5 H6 H2') '  $\otimes$  A" - O  $\otimes$  TYS 9' FMH 5 F 906MF 7' 94 y 5' 5 H7 y H6 5 H 5 MD  $\otimes$  C



t Wol Hif U e 69 67H4 M4 y F7 Oby H65 y 5 9' (3M' 7' 9' (694 y 5TMAH' 7 y H6 5 HF') ® 3' V 34 MHL' y HH' Fy 4' 3' V 3y F. 56 4 69' H y 5 R] W W J65 G(964 / H' p H33y 90Fd 3HY W H65 '5- y 5 TM 4' 5 H7 9H4 y F7 Oby H65 769HCe y CRW H6 (6386" H 0F 796 TM MD' 4 y ® 9' FMH 15 F 906 MF y 5 7' 94 y 5' 5 H7 y H0 5 H (61M) C



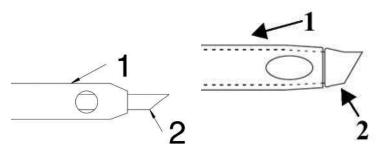
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l 6HU OHB kIj[/]UkSA H/SAVIB=B2SBBAIB2/SA I[[IF/jIUS]IBBqB R k]j : B]jB[III"BA : BID[B VB[ID[R ISF jHB]B]jBV]4

- 63 hJ<Ydfi[ v<fiY3
- 73 d<=rY sJ>fiYfiY>yvd<&r<'-U\forall x<\no. Rfifi>NfiY\fi rYu[r\forall Y\forall yv\rightarray \forall x\text{yv}\forall Y\forall r\forall r\forall
- 83 gv vt >B02VSzG95N SrYu =v vt >q zGV2- 3
- 93 c!vYuz=!fi=rsv!rt@rxvrYuzY=v>>yvtr==v>xryv[r"zYrYuyfiuJYzz>z=rJxfi&r>tr"tr!x]<us":>yv=">xw&3hyvtr==v>xyfiJ=zYxsrt@zxy>[z =xfi!szY@zYxrYu<v&rzYfiY[yvYyv=">xw&tr!x]<v=xyvtr==v>xyhyvZrtJJ&x>>x=x<rJxfi&r>tr"3
- : 3 L vzv<Zrt J J &  $x \Rightarrow$ t fi&! vz=1 yv BSj0 BP2SSG[z r!! vr < [zy 72Y S NOR COGS r=<math>yv yzxy zxyxu vf Yt zfiY3
- - f USSB=j jHBdI[ 0k: ISF r ISB jUjHBqBSj VU[j/j jHB: UjjIB]VIKB/SA jHB UjHB[ BSA x IjH/I[ IDI;B[ jUjHB p H33y90Fd 30FY qI]IUS BSH/S=BRBSj ]"]jBR / I[ UkjVkj = USSB=jU[4yx Ij=HUS jHB/I[ VkR V IDUR jHB]"]jBR | BjkV]=|BBS2jHB=USj[ULI]/j jHBkVVB[ [IFH] H/SA UDJHB]=|BBS40 HB UkjVkj = USSB=jU[ x IIL[BR/IS IIj x HBS Ij I]/j = UR R/SABA V[B]]k[B2/SA: IISKUS/SA UDDx HBS Ij I] SUj/j jHB=UR R/SABA V[B]]k[B4
- A3 NfiYYvt>JszYx xfi J xr=fiJ Yu yr Yu! zvt v3gv vt>BWEX 4 SBjS®9 vfi<r Yz&r xu =v3! xJzuv zwYvt v=r<"3
- B3 d J x >yv yr Yu! zvt v t fiYYvt >fi<>fi >yv &rt yzYv -=vt fiYu t fiYYvt >fi< wfi& >yv >fi! fiY>yv vv>=zuv.3
- C3 hy<ru r Yu vs& "=vt J</r>
  y y J >t=fiJ Yu Yvvu v fiYsfi >y v J >t=fiJ Yu yr Yu! zvt v J=zYx r Yvvu v [</ri>
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- 673 Rz >yv >> t yr &s v<[ zsy z<zxr>Yx =fi J>fiYl>yvY=zuv fiZv<>yv >2 fiw>yv yr Yu! zvt v3
- 683 gv vt>**72Y SNCRC0G**3L ZrtJJ& >>>z=!r\$fiw>yv!<2&zYx t"t v3
- 693 L ww<=Jttv=wJ !<&zYx r Yu J YzYx 1>yv 4 NGB02VPN "BP2SSG[ z r!!vr3

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## n-y™4 MBF0&TYH65 r F



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c MOG) y 5 ®MBY R56 TM 96TM M'A4' H37y 916TF F4 y ®9' FMH964 (5 y V 9H5 H6M M6) 6( H' MBY R50 MT" (H y F T65 (5 FBM4' 5 ICN56 H' 9 76H5 IG) 3 RM  $^{\text{TM}}$  6( 4' H37y 916TF F9' FMB6) (964 y 5 ®MBY R50 M y 5 70 TM 4 y  $^{\text{R}}$ z' H' 9' FMH6 (MBY R50 M 5' 9) ® FM M6) 4 0 96 y z 9y F05 6( H' MBY R50 MT C



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- 63 R<fi&>yv 4 NGB02VYN BP2SSG1⇒v vt>>yv uv=z</u =J<xztr &fiuv vxfi&>yv q ™2XX 4 SG03
- 73 i =v >yv =v>xYx x fis v=xfi =v>>yv uv=zvu r=! zcrzfiY vZv 1r Yu >yv J >cr=fiJ Yu &r] z&J & ! fi[ v3g v>>yv uv=zvu YJ &s v<fiwddg vfi<! J =vu J >cr=fiJ Yu3



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- 83 d<=>yv Rfifi>dvur xfi s vxzY J x=fiJ Yu fi! v< xfi Y3L =! z< xfi Yr Yu J x=fiJ Yu ! fi[ v<[ z sv r!! zvu r= xyv Rfifi>dvur vYx < xyvz! </2! <fix < & vu < xxfi Y=-r=uv= < vu zY! rxv6297.3
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# n3y55' W5H9069s (HY TM64 ®p'HVI



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3' V 3y F. 56 4 69' H y 5 R]™ W LJO5 G (964 / H' p H 33y 90 F d 3HY V W H 65 '5- y 5™4' 5 H 10 H 14
y F7 Oby 1065 7 69 10 E y (2NV) N (6386" H 0 F 796™ MV' 4 y ® 9' F M H 15 F 906 MF y 5 7' 94 y 5' 5 H 7y 10 5 H
(5 1M) © C



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- 63 hJ < Ydfi [ v < fi Y 3
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- 83 gv vt >B02VSzG95 N SrYu = vvt > qzGV2-3
- 93 c!vY>yv uz=! fi=rs v!yrtfi!rtΩrxvrYu zY=v⇔>yv wJzuzt=tr=v>wr >yv[r"zYrYu yfi u JYzz >>z= rJ>fi&r>ztr "tr!>J⊲u s">yv="=>x&3hyv tr=v>w yfiJ=zYx srtΩzxy>[z ⇒fi!s zYΩzYx rYu ⊲\&rzYfiY [yvY>yv="=>x\& tr!>J⊲=>yv tr=v>x)3
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# n3y55' W5H9069s (19) T#164 ®r F

- 63 gv vt>**EY** wfi& >yv **q** ™**2Px 4 SO**03**CVS BW2X 4 S BjS®** r Yz&r>vu ⇒√3! xJzuv [ z r!!vr♂
- 73 i  $\Rightarrow yyy \Rightarrow xyx x \text{ fis } y = x \text{i} \Rightarrow yyy uy = xyu Zrt JJ & vZv r Yu t J > xy3$
- 83 Rfi<Rz] vu t J>Zzzvt źi&"1"r[ yv Rfifi>dvur fiJ; r<u źi źixx v yv t J>w<fiYr Yu fiwtr Yu uv! <= yv Rfifi>dvur wfi<r=! zatzfiY3L Yr Juzfi źiYv [ z =zx Yzw t J>w<fi! v<tzfiY-zwv Yrs vu. 3Rz] vu t J><t>z= rt zZr>vu z Y Rfifi>dvur f vxzfiYz/3
- 93 Rfi<XzYvr<tJ>Zzxvtxfi&"1rtxZrxvxyvtJxv<s" fiJ\{ r<u "r[ xrZv fiwyv Rfifi>dvur zYf vxzfiYç/3
- : 3 Rfi<f vwJ] -zwvYrs vu.1<fi>zyzy Rfifi>dvur zYJ r<u3

## r 573y55' W5H9069s (H9'T) 144 ®p'HVI

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- 63 gv vt>yv E**y2SPjz- +**&fiuv wfi& yv q T2Px 4 SQO3h yv BW2X 4 SBjS®9 r Yz&r yu =v3! xJzuv [ z r!!vr3gv vt>q T29S xfi t fi=v yv r Yz&r yu =v3! xJzuv3
- 73 c!vY>yvr!!⊲fi!⊲r>vZz∞t≯i&"tJ>w<!rtΩ3
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- 83 PY=J<br/>
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- 93 L ww<r = Jttv=wJ = x=x1=x vt>o R1NGPS jz B02VS2+ rYu = v vt>xyv EY ! yr=v wfi& xyv q T2Px 4 SG03

# n 904 y 9\mathbb{R}. \(\lambda \) H / e 66Hb 65 H636( \(\bar{V} \)5 H9069s (\(\bar{U} \)2 \(\bar{V} \)3 H44 \(\mathbb{R} \)k 6 '

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t Woll f U q-OFFRH4 OFW z'MF O5'OH'9 y O9 79'FFM9' O5 (MRO5 4 6'69 hs n63'4 6'zMF5'V 9 z6H W)'H'9 (69 76FH9069 69 TO4 z O5' HTM 5 (8M Fy F-0) - O5 FBy 6 TM9y 9 79' FFM9' F4 y ® 9' FMFC



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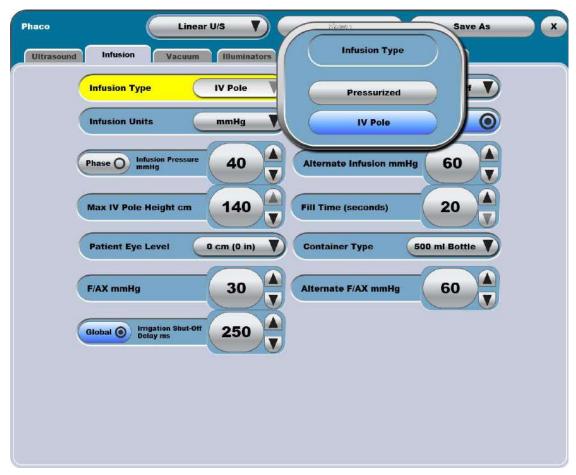
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- 63 gv vt>×yv a fi<v gt<vvYsJ>sfiY3
- 73 gv vt>yv UW =xfiYhrs fiwyv! fi! J! =t < vvY3
- 83 gv vt>UVwJ=zfiY>"! v fiwd<v=J<v vu UVwJ=zfiY3



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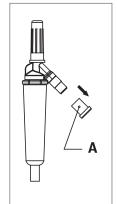


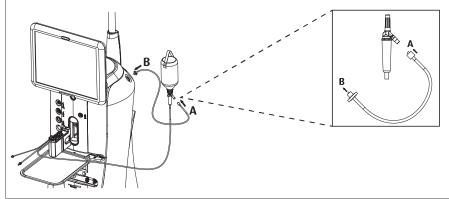
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- 73 NfiYYvt>yv Lz<br/>chJszYx XzYv &r v t fiYYvt>fi</br/>fi>yv s fi $\gg$ v = 20v ZvYzYx ! fi<br/>\$-L. zYRzxJ<\Q37C3
- 83 NfiYYvt>yv Lz<hJszYx XzYv vz.></si>yv Zz=fiYvYyr Yt v&vY>="=x& rz<=fiJ < v M zY RzxJ <\@37C3
- 93 g! x0v r Yu yr Yx >yv s fi≫v fiY>yv yr Yxv<r>>yv uv=x√u s fi≫v yvzxy>3
- ; 3 hJ $\checkmark$ C Y $\Rightarrow$ v r $\Rightarrow$ C! J&! s"  $\Rightarrow$  vt  $\Rightarrow$ Yx  $\Rightarrow$ v 6 **U**SJ $\Rightarrow$ fiYs v fi[  $\Rightarrow$ v  $\Rightarrow$ ZYx uz $\neq$  r"3gv vt  $\Rightarrow$ Yx  $\Rightarrow$ v  $\Rightarrow$ L&v sJ $\Rightarrow$ fiY rxr $\Rightarrow$ Y [ z  $\Rightarrow$ ZYfiw $\Rightarrow$ v !J&! 3





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 $t \ \ \textit{WolhlfU} \quad b - \text{`TM} H\text{'TM}y) \textit{MNH05} \ 76\text{``'}93\text{'V}3\text{``-'}5 \ \text{TM}y5) \textit{(5)} \ z\text{'H''}5 \ \text{``'Hy}6\text{TM}y9y5 \ \textit{(5 Hy}6\text{TM}y9y6\text{TM}y9$ 



t Wolhl f U r F 653 $\otimes$ z (763y9 - y5 70  $ilde{T}$ MFy5  $ilde{T}$ yz 3 F 'H) 5 y H z  $\otimes$ a y MFM]: Ij 64 z (69 MF "CH HOF REH14 C







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e 0" b 6y) Mby H65 p" HMV y 5 r F



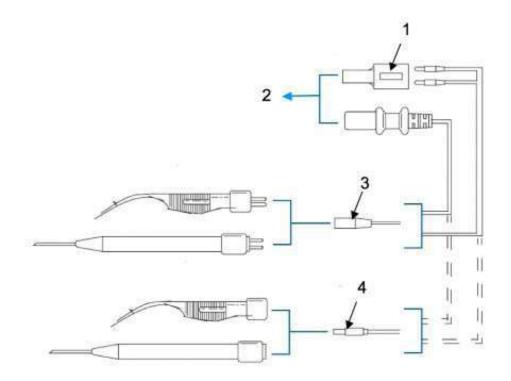
t Woll f U WHMP H'-y5 70 TM y5 y TNMH690 Fy9' H1900ft z'(69') MF C



t Wolhl f U byz3 FIGH' FM) OY3'3 TY96 'FF 6M8 z' 76RI665' FMM HyHY65HTYH'OH H' 7yH75H69 6H'93 y Fy9' y V60' C



 $yBBf H'VjB[-\Theta DU[=B'SISF/SA]jB[III''/jIUS [BXkI[BR BSj] x HBS]k[FB["I]=UR VIBjBA4 y VB=ID=IS]j[k=jIUS] DV[=B'SISF/SA]jB[III''/jIUS IS=IkABA x IjHjHB H'SAVIB=B U[/=B]]U["j/KB V[B=BABS=B UqB[jHB]B IS]j[k=jIUS]4$ 



#### $RzxJ < \sqrt{93853}t$ **XSR** q z **NO** $\sqrt{N}$ **Y** Gw NGR $\sqrt{SPS}$ 9Sj 0 $\otimes$

63;Lur!≯i<Nl C959373;hfi="⇒v& t firxJ r>fiYt fiYYt≯i<3 83;72 zYt fiYYt≯i<⇒" v393;Xv&fi t fiYYt≯i<⇒" v3

- 63 NfiYYvt>>yv uv=z</br>
  vu sz! fi r<wfi∢v!=fi<! vYt z ≯i z=trs v3mfiJ &r" Yvvu ≯i J⇒v r Yrur! >v3
- 73 NfiYYvt>yyv szl fi r<trs v xfi yyv t fir xJ r xfiYt fiYYvt xfi3
- 83 i  $\Rightarrow yv \Rightarrow xx$  x fis v = xi ru $\Rightarrow yv ! v \Rightarrow vY x xv$  fiwt fir xJ rxfiY! fi[ v < uv = xvu3
- 93 hyv w] vu t fir xJ r>fiY wl Yt >fiYz=rt >Zr>vu s"! <>=XYx >yv! <fix< &&vu d<&r<"-UY>x<<rb/>-Vu. Rfifi>NfiY>fi = z\*xy3k yvY>yv = z\*xy z=</ri>NfiY>fi = z\*xy3k yvY>yv = z\*xy z=vr=vul>yv vl Yt>fiY[z uvrt>Zr>3Rz] vu t fir xJ r>fiY &fiuv z= rtt v=zs v uJ

# j (05'y9b 6y) My H05 p'HM y5 r F



t Wo l Hl f U WHMO' H' - y5 70  $^{\text{TM}}$  y5 y  $^{\text{TMM}}$ HF690 Fy9' HI900ft z'(69' MF yFF7'  $^{\text{TM}}$ (0' C



 $yVB\!\!=\!\!ID\!\!=\!\!IS]j[k\!=\!\!\!jIUS]\;ID[\!\!=\!\!IB'SISF/SA]jB[III'''jIUS\;IS\!=\!\!IkABA\;x\;IjHjHB\;H'SAVIB\!=\!\!B\;U[\;/=\!\!\!B]]U["$ l 6HU *j/KBV[B=BABS=BUqB[jHB]BIS]j[k=jIUS]4* 

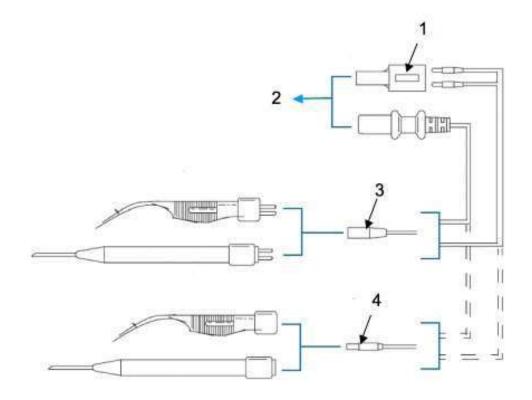


l 6HU  $yBBfHVjB[-\Theta IDI]=BVSISF/SA]jB[IIIV]jIUS[BXkI[BRBSj]xHBS]k[FB["I]=URVIBjBA4$ 



l 6HU  $g \ kBjU = URVII/S = Bx \ IjHP6P6738382VU]IjIUS = Fx \ IILSUj \ ]j/[j \ kSjIL/VV[U½IR/jBL"CO] UDVB4/L$ 

j[/qBLI]/jj/ISBAISjHBIISB/[=U/FkIL/jIUSRUAB4]



#### RzxJ<v93863/ **YSN2 q z NN0 TNJ Y:Gw NGR®SPS BSj0**®3

63;Lur!≯i<NI C959373;hfi="⇒v& t firxJ r>fiYt fiYYvt≯i<383;72 zYt fiYYvt≯i<⇒" v393;Xv&fi t fiYYvt≯i<⇒" v3

- 63 NfiYYvt>>yv uv=zvu sz! fi r<vfi<t v!=fi<! vYt z >fi z=trs v3h yv J=v fiwrYrur! >v<&r" sv Yvt v=t<3
- 73 NfiYYvt>>yv szl fi r<trs v xfi yv t firxJ rxfiYv vtxxtr t fiYYvtxfid zwd/7/J zwu3
- 83 gv vt >Nfir x wfi& >yv **q <sup>T</sup>2!Px 4 SG0**3
- 93 i  $\Rightarrow yv \Rightarrow xx$  x fis  $v \Rightarrow x$  ru $\Rightarrow yv$  **4 N&q zNW**  $\Rightarrow x$  Y **6**! fi[  $v < uv \Rightarrow xv$  **3**
- ; 3 L xfiYv[z =zxYzw sz! fir<t firxJrxfiYfi!v<rxfiYzw! <fix<t &&vu3

# UMAM mxL h0kzv nxL Y0k



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 $s / KB \} k [BjHBV/ = K"Uk / [Bk]ISFI] / VV[UV[I/jBIDI] jHBAUR/IS]BIB=jBA4$ 

# b 64 z 05' n 96TM M' p' HM y 5 r F



l 6HU

 $yVB=ID=IS]j[k \Rightarrow IUS]$  ID[I=IB'] SISF/SA]jB[III''jIUS]  $IS=IkABA \times IjH/S"$   $H'SAVIB=B \cup [/=B]] \cup ["$   $j/B=BABS=B \cup [jHB]B \mid S]j[k \Rightarrow IUS]4$ 

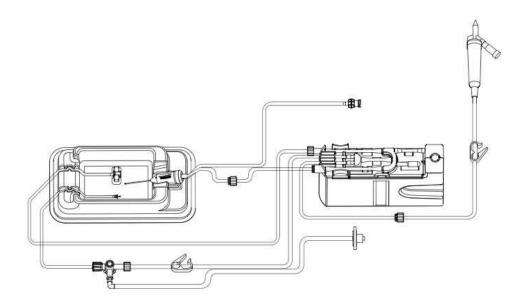


t Wol HI f U e 69 67 104 M4 y F7 (Dy 1065 y 5 9' (3M' 7' 9' (694 y 5™AH' 7y 1075 HF'® 3' V 34 MHŁ' y HH' Fy 4' 3' V 3y F. 56 4 69' H y 5 R]™ W LJ (5 6€ (964 / H' p H3) y 90 F d 3HY W H05 '5- y 5™4' 5 H1 10 H14 y F7 (Dy 1065 7691Ce y (BW) K6 (636" H 0F 796™ MD' 4 y ® 9' F MH 15 F 906 MF y 5 7' 94 y 5' 5 H7 y 1075 H 05 IM 3C

- 63 NfiYYvt>xyv t fi&! <=vu r x<=fiJ < v xfi xyv t fiYYvt xfi<fif Y xyv fi[ v<<rfiwxyv ="=xx&3
- 73 hJ Xyv! fi[ v<fiYr Yu [ rz>J Yz >yv = <vYuz=! r"=>yv d <&r<" -UXvx<r>u. Rfifi>NfiY>fi fi<fi>yv<='=>y& &v==rxv=3
- 83 Lt  $\Omega Y fi[vuxv r Yu t fi=v r &v=r xv=3]$
- 93 hfi fi! v∢≯ yv d⊲&r<"-U⁄>xx∢≯u. Rfifi>NfiY>fi [z√v="1! √=rY" sJ>fiYfiY yv d⊲&r<"
  -U⁄>xx∢≯u. Rfifi>NfiY>fi rYu [rz>JYz yv ∢ru" zxy>J<Y=fi zu x√vY3hyz=zYuztr≫=yr>[z√v v=
  t fi&&JYztr>fiYyr=svvYv⇒rs z=yvu3
- : 3 hyv =t <vvY[z uz=! r" BS\SPj 72zPSR02S3-Uw"fiJ<="⇒v&z=! <fix< & &vu >fi uvw J>>fi vzyv<zyv L Y>v<fi>COfi&rzYfi<>yv dfi=>v<fi<Nfi&szYvu Ofi&rzYl>yv gv vt>d<fit vuJ<v gt <vvY[z Yfi>r!! vr<lr Yu >yv="⇒v&[z &fiZv uz=vt>" >fi yv BS\SPj B02VSzGBP2SSG1r==yfi[YzYRzxJ<v;63B3
- ; 3 gv vt>7z9jS2V2dv GjS2V2 BSV- SGj1r Yu >yv =4vY [ z >r Y=zzfiY >fi >yv BS'SPj B02VSzG=4vvY3-g $\Omega$ z! >yz==>v! zw>yv='=x& z=r 4ru" uz=! r"zYx >yv BS'SPj B02VSzG=4vvY3
- A3 gv vt>B02VSzG95 N SrYu yvY q zGU2-  $\sin$  Y=zzfiY $\sin$  yv yG9S2j q N99SjjS = 4  $\sqrt{3}$
- B3 c!vY>yvtfi&szYvu=J<xztr!rt $\Omega$ [z>y>yvwfi fi[zYx=>v!=D
  - r3 Tfi u >yv s fi≫fi& fiw>yv > r" [z>y vw>yr Yu r Yu >yv >yJ&s!rt vu zY>yv >yJ&s Yfi>t y3-Nz∢J r ≥Yx b J ←v.
  - s3 hvr<fi! vY>yv h"Zv $\Omega =$ vr >fi[ r<u >yv s fiu"3-Nz<t J r>ZYx b J<v.

u VB[/jU[,] s /Sk/L MBOC

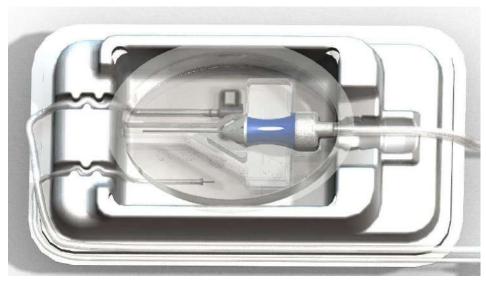
- t3  $df_1J < tf_1Y_2V_2 = f_1Y_3f_1 \Rightarrow v < v = J < v t v < 3 Nz < J r > 2Yx b J < v$ .
- u3 UuvYzw fifi=v t fi&! fiYvYz=wfi& >yv ! </2 fiYYvt >yu > zYx =y>3-gt </4 s b J <=v.
- $\begin{array}{lll} \text{W} & L \ll f \text{Yxv} \Rightarrow v ! \ll 2 \text{ fi} \text{Yyvt} \Rightarrow u \exists s \text{ZYx} \Rightarrow > [ z \text{y} \text{ tr} \Rightarrow \text{w} \text{ls} \text{ fi} \Rightarrow v \exists \exists x \text{W} \text{lr} z \in \exists s \text{ZYx} \text{ wz} \times \text{r} \text{Yu} \text{ rt} \exists \text{r} z \text{fi} \text{Y} \text{rt} \Rightarrow \text{r} \text{x} \text{fi} \text{Yxv} \Rightarrow \text{r} \text{fi} \text{fi} \text{fi} \text{fi} \text{fi} \Rightarrow \text{r} \text{fi} \text{fi} \Rightarrow \text{r} \text{fi} \text{fi} \Rightarrow \text{r} \text{fi} \Rightarrow \text{$



#### RzxJ<v@3873**72StPz GGSPjSR j0 OYGV 9Sj**3

- x3 f v&fiZv yyv x ! v xfi J Ys zYu r yyv xJ s zYx3-gt d s b J ←v.
- y3  $g \times z \times y \times Y \times y \times J s \times = x \times J \times z = f z = f z = f z \times f = f x \times f =$
- ® NfiYYvt>>yv rz<J s zYx wz><fi >yv = '⇒x& -⇒vt fiYu t fiYvt ≯i<ufi[Yl fiYyv ∢xy>=zuv fiwyv &rt yzYv.3P Y∃ <v >yv rz<! J &! z=fiY3-gt d s b J <⇒v fi<Nz«t J rzYx b J <⇒v.
- OB NfiYYvt>>yv Zz∞vtxi&"rtxlrxfiY zYv-s Jv ⇒v!v.xixyv="⇒v&3-gt√ls bJ⇔v fi<Nz∢JrxYx bJ⇔v.
- 3 UY=v>>yv wJ zuzt=tr=v>>v r >yv [ r" zYr Yu yfi u J Yz z>z=rJ xfi&r>tr " tr!  $\forall$  <u s" >yv ="=>v&3 h yv tr=v>>v yfiJ=zYx srt  $\Omega$ zxy>[ z =xfi! s zY\DzYx r Yu <v&rzY fiY[ yvY>yv ="=>v& tr!  $\forall$  <u s" >yv ="=>v& tr!  $\forall$  <u s" >yv = "=>v& tr!  $\forall$  <u s" >yv = "=v& tr!  $\forall$
- &3  $dr = yv s fi \gg v = 1 \text{ als } r \text{ Yu } x \in xr x fi Y \neq s z Yx x fi N x d J r x y x b J < v 3 g t d s b J < v.$
- Y3 g! ZDv r Yu yr Yx >yv Mr r Yt vu gr >gfi J>zfiYt fiY>r ZYv<fiY>yv r J>fi&r>v UJ !fi v fi<>yv n v<i XvZv yr Yxv<zwJ=zYx L RU3g% vv•v r Yu <v vr=v >yv u<! t yr &s v<J Y>z >>z=yr wwz vu [ zy =fi J>zfiY3 -Rfi<L RU=v>J! J = yv =! ZDzYx >fifi ! diZzuvu >fi! J Yt >J <v >yv -J s s v<=>fi!! v<fiY>yv s fi>v s vwfi</br>
  zY=v<zYx >yv &vx tr YYJ r zY5fi >yv s fi>v3 -Nz<t J r>2xx b J <v .3gvv RzyJ<v(93 3)

- fi3 f v&fiZv  $yv \neq v$  fiY  $yv \neq x$ 2xx t J v3-gt v3 b J v4.



RzxJ<\@3883**72Y Y5VF0®XYWY509¥GPNGO**\"Na\"SUJ N**9®2NJ¥GNGR1Y2SPjz-+P0jjS2** Njj**NYVS**R3

C3 gv vt>yv vx $\Leftrightarrow$ s J $\gg$ fiY wfi& yv s **N9+72Y** S $\Rightarrow$  vt $\gg$ fiY &vYJ  $\gg$ fi ZY $\gg$ r yv rJ $\approx$ fi! <&zYx rYu Z $\gg$ vX  $\approx$ fi</br>
N $\approx$ t J $\approx$ vX b J $\approx$ v

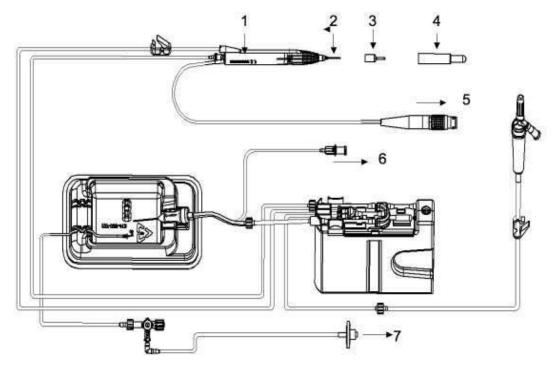


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OHB ]"]jBR x IILSUj V[UqIAB DBBA: /=K/] jUx HBjHB[ U[ SUj DbkIA I] V[B]BSj Ak[ISF V[IR ISF4 nS]VB=j jk: ISF/SA =USD[R jH'j Ij I] DDIBA x IjHDbkIA/SA IDBB UD: k:: IB] / DB[ B'=Hv [IR B/SA OkSB4wBVB'j jHB V[IR ISF V[U=B]] ID]HB jk: ISF I] SUj / ABXk/jBL" DDIBA x IjHDbkIA4

hyv!fi=xv<fi<=vt>fif=xv<fi<=vt>fi=xvd;=vd! z=Yfi[ tfi&! v>v3hyv vfi fi[ zYx =>v!=r<vfi=vd! >yv rYxv<fi<vd Yt>fiY=D

- 653 f v&fiZv >yv =xt fiYu r=! z<zfiY zYv wfi& >yv! <&zYx tJ! r Yu t fiYYvt >xfi >yv! yrt fi yr Yu! zxt v3
- 663 f v&fiZv yv z<zxr>fiY zYv wfi& yv 72[ r" =fi! t fit Ωr Yu t fiYYvt>z>fi yv ! yr t fi yr Yu! zvt v3g vv gyfi[ a v g >! = vfi<r Yz&r > u =>]! x J zuv zwYvt v=r<"3



RzxJ <vç93893q z GCSPjYGV j0 OYGV jz jVB ®WNPz VNGR®VSPS3

63;dyrtfi TrYu! zvtv373;dyrtfi b vvu v383;UVul =zfiY=vvZv393;hv⇒Nyr&sv3: 3;NfiYYvt>xfi i 4g tfiYYvtxfi3 ; 3;NfiYYvt>xfi j z>rtxlrxfiY! fi≪3 A3;NfiYYvt>xfi rz<! <v≕J <v! fi≪3

- 673 d Jx yv yr Yu! zvt v t fiYYvt xi<xi yv &r t yzYv -=vt fiYu t fiYYvt xi<wfi& yv xi! .3
- 683 hy</ri>

- 6; 3 Rz  $\Rightarrow$ yv  $\Rightarrow$ t yr &s v<[ zy z<zxr zYx =fi Jzfi YJyv Y = zuv fiZv<yv z! fiwyv yr Yu! zvt v3
- 6A3 gv vt>d<&v r Yu hJ Yv3L Zrt JJ & >>>=! r \$<\text{r\sqrt{w\sqrt{y}}} v! <\text{d\sqrt{y}} x t "t v3

Lww<=Jttv=wJ !<d&zYx rYu >JYzYx1>yv a rzYgJ<xztr gt<vY[z r!!vr<3

# a**ls** ording RonGRCRS zl**U**xoRum

# mtz ykok) ykv 5xz @EO yxoxk 4z vho@ L zkX&

h yz=tyr! >v<! <fiZuv=zY=>v1t>xfiY=vfi<t vrYzYx >yv **pH3b**y 90Fd 30HY Zz=2fiY vYyrYtv&vY>="=x&1rYu vfi<t vrYzYx rYu =xv<z\*r>xfiY fiw>v



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yVB=ID=IS]j[k=jIUS] ID[I=IB'] SISF/SA]jB[III'']jIUS IS=IkABA x IjH/S" H' SAVIB=B U[I=B]]U[I=B]IU[I=BABS=B U[I=B]IU[I=B]IU[I=BABS=B U[I=B]IU[I=B]



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v [BqBSj/jIqB]=HBAkIBA R/ISjBS/S=B1] [B=UR R BSABA US=B/ "B'[jUBS]k[BjHjjjHB**p P133y90F**d 30PY q1]IUS BSH/S=BR BSj]"]jBR R BBj] Ij] UVjIR kR VB[10][R/S=B2[BIV:IIIj"/SA]/IDj"
]j/SA/[A]]Bj: "jHBR/SkID=jk[B[40HBR/ISjBS/S=B]H/IL:BAUSB:"/e/k]=H-+UR:=B[jIIDBA
ISAIqIAk/LUSL"4



t Woll II f U W336" IEJ4 65 MHFy (H9 HH900Jy 1665 (69 H' - y5 70 TMJy5 JT 09 16 T063z' (69' MH5) H' 4 y) y 65 Cq - ' - y5 70 TM T055' T169 4 MHz' T04 73 H3 3 9 Gz' (69' CHF T055' T14 CH6' 8 M74' 5 IC

# aNPM 4xHXCkz mtzYkCk)



t Wol H f U c OFT055'THMb 76"'9z'(69' TYY505) H' FRH14 C



b Wr q hml  $U = q6.79^{\circ}F9V$  H'  $PO(y^{TM})$  (05.0F Ay V60 H' MF 6(yz9yRW) TS y5'9FCh(76FRL3'ATS'y5'F76FR) z'(69'H') y y

 $MrJ = ty(0) cXfi&s \Rightarrow x = xu \Rightarrow yv wfi \ fi[ zYx ! fiuJt = 1r Yu wfiJ Yu = xr > yv "tr Ys v J = vu fiYr v] x < xr = J < xv t v = fiw > yv pH3y 90Fd 30HY Z=xfiY v Yyr Yt v & v Y > = " = x & 3i = v fiwr Y" = J s = x Yt v Yfi> z = xv u z = r > yv J = v < = fi[ Y < x + 2B = x & 3i = v fiwr Y" = y < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x & yv Y = v < xr = x &$ 

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- a zu =fir! rYu [ r><

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RzxJ<v; 363t TONR/ S1ST\ SjSPj\G/ SCD3

SvY>" = rs > yv v vt > tr t fi YYvt > fi = [zy r Yr t fiyfi <math>=  $rs [vv\Omega"1 > r\Omega Yx t r < rd r Zfizu v] t v = Zv % r Yzzv = fiw t vr YzYx <math>=$  fi Yz fi Yv z yv z fi z

# a MSM I O, x EY ® mx Y) HEY XOx k i qqz & & x ® Dz &



 $t \hspace{0.2cm} \textit{Wolhl} \hspace{0.1cm} \textit{f} \hspace{0.1cm} \textit{U} \hspace{0.2cm} \textit{q-'TOY)} \hspace{0.1cm} \textit{My H055} \hspace{0.1cm} \textit{y} \hspace{0.1cm} \textit{TMM-FRS90'FF-6MB-56Hz'} \hspace{0.1cm} \textit{FRS90GFF-MR5)} \hspace{0.1cm} \textit{y} \hspace{0.1cm} \textit{TO3-RSy205)} \hspace{0.1cm} \textit{RSM065C}$ 



t Wol hl f U W36" I E/4 C6M4Fy (F19 H1909fy 1665 (69 H' - y5 70" TM y5 TV9 16 TV63z' (69' M76) H' 4 y) y (6 Cq - ' - y5 70" TM TV55' TH9 4 MHz' TV4 73" P13® 9®z' (69' CH1FTV55' TH9 CH16' 8M74' 51C



b Wr q lml U W33z(1763y9y<sup>TXM</sup>H690 F4 MHL, '9yH (69y5 67'9yH65) V63H) '6(yHB'yHHClEs C

 $Q8 \quad u \ VB[/jU], ] \ s \ / Sk/L$  MFCOa67ht



t USBkj[/LBIB=j[UABI] [BXkI[BA ID] k]B UDjHB: IVUI/ [IDS=jIUS4

hyv wh∢v!=rYu ∢J=rs v trs v=&r"sv=>v<z•vu r=wh fi[ =D

- **BjNCRN2R u 2N Y+ BjSN BjS2YYN Y Gn**k ∢!! vu wh<85ç&zYJ ≫=r>676'çN4659æÇddr c6359æş r. φ -7: 5'çR46: ∃c! =z.3
- **t ¹NPWBj\$2YYJN}¥Gn**i Y[ ∢!!vu sJ>t fiZv<vu wfi<65ç&zYJ≫=r>687'çN46B; **3**BçAdr c63B; Bşsr.ф -7A5'çR47A6ç!=z3
- w WWEN100- 17 2Sb1N100- MBjS2YYJN ¥ Gnk <!!! vu vfi<8ç&zYJ >= r>689° ¢N475; 3EçΩdr o735; Bş r φ -7ΑΘ° ¢R48535 ç! =z 3

f vwv< $\pi$ i L b g ULL a Ugh AC2755; 1 f UR V[BHBS]IqB l kIAB j UyjB' R yjB[III]" j IUS / SA yjB[III]" d]]k[/ S=B IS mB' IjHf / [B i /=IIIjIB]1r Yu4i< $\pi$ 1 fix  $\pi$ 2 fix  $\pi$ 3 fix  $\pi$ 4 fix  $\pi$ 4 fix  $\pi$ 5 fix  $\pi$ 5 fix  $\pi$ 6 fix  $\pi$ 6 fix  $\pi$ 6 fix  $\pi$ 6 fix  $\pi$ 7 fix  $\pi$ 8 fix  $\pi$ 9 fi

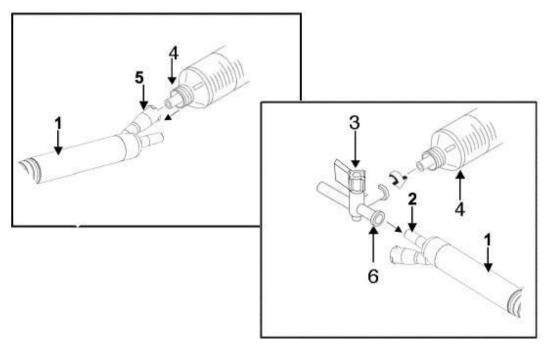
# aNTM t®30) YXOxk Ykv t®30) YXOxkNi & O®YXOxk s Ykv, Oz opz &



b Wr q hml U r F 653 $\mathbb{B}$ "y94 .LEX]b 16 NEX]b 69 SOXJe 16 CEOXJe / OF16B3 69 '065G7 "y F19 16 (3MF H' - y5 70 TNC

h yv yr Yu! zvt v &J⇒s v t vr Yvu r Yu r J>fit r Zvu s vvfi∢ z>z=! r t vu zY>fi =v-Zzt v >yv vz⇔>z&vl s vvfi∢ zYzzr J=v vrt y ur"l r Yu s v>j vvY vrt y J=v zYrtt fi⊲ur Yt v [ zy >yv vfi fi[ zYx zY⇒zl t>zfiY=3

# $g y 5 70^{\text{TM}} b 3 y 505) h 5 H 9 M 7 H 6 5 F$



RzxJ<\cap 373y22WNj\GNGR09\BY2Nj\GwNGR\BYSFS t \T09VWGVBSj0\B93

63,4L Tr Yu! zvt v373,L=! zr zfi Y RzzzYx383,β2k r" gzfi! t fit Ω3 93,g"</ri>

- L3 Oz=t fiYYvt>>yv > 3 s zYx r Yu < v&fiZv >yv z<< xr>fiY=vvZv3
- MB d rt v >yv v Yu fiw>yv = '<2 Yxv z Yπ r s v r Ων< fiw[ r & -85 'çN π 95 'çN fi<B: 'çR π 65: 'çR. uz=>z vu fi< uvπ Yz vu [ r>ν d r Yu vz >yv = '<2 Yxv π 3yv : 5 ct & . & r < Ω
- N3 NfiYYvt>yv vYu fiwyv = "<\frac{2}{x} \frac{1}{y} \frac{1}{x} \f
- O3 dJ=y fiY>yv="<\text{xv} ! JYxv<\text{si vfi<t v wJ zu >y<fiJ xy >yv yr Yu! zvt v zYxfi r Yfi>yv<\text{svr }\Ov<\text{wfi<! <fi! v<uz=! fi=r 3 r z Gzj R2NX U09WGY U04R ONPx jVZz0VWjV8 VYCR®I\$P\$C Oz=t fiYYvt>>yv ="<\text{xv}3
- R3 Rz >yv = '\dayxv[zy rzd\svr\st y \si yr Yu!zvt vlr Yu!J=y fiY\syv = '\dayxv!JYxv\si \sh vh\sq v rz\sy\diJxy \syv yr Yu!zvt v3Oz=t fiYYvt>\syv = '\dayxv3
- $S3 ext{ f } v! \text{ } vr>g \times ! \text{ } Rr> vr \Rightarrow y < v \times \& v = 3$
- T3 f vvz >yv = '< xyx >fi >yv : 5qt -& . &r<0[ zy [ r<& -85'qN >fi 95'qN fi<B: 'qR >fi 65: 'qR. uz=>z vu fi< uvzfiYz•vu [ r><
- V3 f fixxxyv⇒fi!tfitΩvZv<xfir fi[wJzuwfi[xfixyvww&rvJv<wzxYx3
- W3 NfiYYvt> $yv \Rightarrow fi! t fit \Omega w \& r v J v < w > Yx <math>x = yv y r Yu! z v t v r = z r x fi Y w > Yx 3$

OM u VB[/jU[,] s / Sk/L

- X3 dJ=y fiY>yv="<\(\frac{1}{2}\)Yxv<\(\frac{1}{2}\)i vfid v wJ zu >y<\(\frac{1}{2}\)J xy >yv yr Yu! zvt v zY\(\frac{1}{2}\)i r Yfi>yv<\(\frac{1}{2}\)v<\(\frac{1}{2}\)i! v<\(\frac{1}{2}\)i! i r Z Gzj R2NX UO9WGY UOYR ONPX jVZzO WWjVS WYCR®ISPSC Oz=t fiYYvt >>yv="<\(\frac{1}{2}\)Yxv3
- a 3 f v!  $vr > g \times ! = T \times diJ \times v \times vr \Rightarrow x < v = 3$
- b 3 Rz  $yv = 4xv [zy rzd xxy fi = fi! t fit \Omega r Yu ! J = y fiY yv = 4xv ! J Yxv = fi w fid v rz = y fiJ xy yv yr Yu! zvt v 30z=t fiYYvt > yv = 4xv 3$
- c 3 f v! vr>g $\times$ ! b r> vr $\Rightarrow$  $\times$ 9 $\times$ 9 $\times$ 8 $\times$ 9



b Wr q hm l U r F 6538" y 94 . LEX/b 16 NEX/b 69 SOX/e 16 CEOX/e / OHOB3 69 '06507 "y H9 16 (3MF H' - y 5 70 TNC

# 1990) y HB65 y 5 hDWg y 5 70 TM p F19020fly HB65



t Wo l H f U c 6 5 6 H 63 H 1909 ft H' (5 H 20M '5 N q - 'H 1909 ft 5) K 3 M 65 4 y @ 5 6 H; '(3 M F' 6 M H 7906 9 N e 10 M 90 e 10 M 90



t Wol H f U W36" IEJ4 65 MHFy (H9 H1909fly 1665 (69 H' - y5 70 TM]y5 JT09 H6 T063z'(69' MH5) H'4 y) y65 Cq-'-y5 70 TM T055'TH9 4 MHz' T04 73' H30 90z'(69' 0HFT055'TH9 0H6'8M74'51C



*l 6HU* 

 $OUR/ISj/IS\ DBE_{x}I:IIIj''/SA\ V[BqBSj \neq : IB\ A/\ R/\ FB2x\ ISA\ jHB = U[A\ USL''\ IUU]BL''\ IDSBBABA2/SA\ AU\ SUj\ ]jU[B\ Ij = UIIBA\ x\ IjH/\ IB]\ ]jH'\ S\ PY\ AI/\ R\ BjB[4$ 

- **BjNXN2Ru 2N Y+ BjSN BjS2YYN Y Gn**k ∢!! vu vn<85ç&zYJ ≫=r>676'çN4659æQdr c6359æş r. p -7: 5'çR46: 37çl =z 3
- **t ™WWBj\$2YYJN}¥Gn**i Y[∢!!vu sJ>t fiZv<vu vfi<65ç&zYJ≫=r>687'çN46B; **B**çΩdr c6B; Bşr•p -7A5'çR47A6¢!=z.3
- w WWENPOO- 17 2Sbl NPOO- MBj S2YYJN j Yz Clark <!! vu vh<8 ç&zYJ ≫=r>689' çN475; 3BçΩdr o735; Bçs r φ -7A9' cR48535cl =z.3

f vw< $\pi$ i L b g ULL a Ugh AC2755; 1f UR V[BHBS]IqB1 kIAB j UyjB'R yjB[III]" j IUS / SA yjB[III]" d]]k[/ S=B IS mB' IjHf / [Bi /  $\pi$ IIjIB] 1r Yu4i< $\pi$ 1; fi z z= $\pi$ 2r z fi Y3

# a NOTM 7 EX®Y & X H k v s Y k v , Oz opz Y k v i opoz & & x ® oz &

hyv J > t=fiJ Yu yr Yu! zvt vl < J = s v rtt v=fi< v = lr Yu t fi<u = yfiJ u sv zY=! vt > v s vwfi< vrt y J = v wfi<= zx Y= fiw t fiYz & zYr > fiYl fi< fi>zyv< ur & rxv3 Uw>yv yr Yu! zvt vl z=t fi<u l fi< rY " < J = s v rtt v=fi< " = yfi[ = zx Y= fiwur & rxv fi<t < t Ωvu zY=J r>fiYl z>=yfiJ u Yfi>s v J = vu3h yv yr Yu! zvt v & J⇒s v wJ = yvu t vr Yr Yu rJ>fit r Zvu s vwfi< s vzYx ! rt vu zYxfi = √2 zt v > yv ws⇒> x&vls vwfi< zYzzr J = v vrt y ur "lr Yu rwv< vrt y J = v zYrtt fi< ur Yt v [ zy > yv wfi fi[ zYx zY=x]t>fiY=D



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9 ]B =UR V[B] ]BA2101jB[BA R BAI=| LF[/AB/I[ -R BAI=| LF[/AB SIj[UFBS. jU:IUk Ukj jHB H/ SAVIB=B Ik R BS]40 HB V[B] ]k[B] HUKIA SUj Rz=BBA 8a-V]I -866-Kv/28-+/[.4



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wBR UqB jHB [k:: B[ VIkF] IQUR jHB jIV UDjHB H/ SAVIB=B/SA IkR BS VU[j-]. /j jHB BSA UDjHB H/ SAVIB=B: BID[B/kjU=L/qISF/SA VIL/=ISF ISjU]B[qI=B IDI[j jHB IDI[]j jIR B4



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OUR/ISj/IS  $DB_{Z}I:IIIj''/SA$   $V[BqBSj \neq : IB$   $A/R/FB_{Z}X$  ISA jHB = UA USL'' IUU]BL'' IDSBBABA2/SA AU  $SU_{j}[JUB Ij = UIBA x IjH/IB]]$  jH'S PY AI/R BjB[4

## $g y 5 70^{\circ} \text{TM} b 3 y 505) h5 H9M H65 F$

M·J =t yq0 çXfi&s ⊲t fi&&vYu=>yv J =v fiw>yv **DGYIS29N·4 NGJSCNCPS**) **Y** q HI f ge zY >yv wfi fi[ zYx zY=>d t >zfiY=3 h yv z≪zxr>zfiY=vvZv1 Yvvu v1r Yu >d s zYx &J⇒s v ⊲&fiZvu wxfi&>yv yr Yu! zvt v s vvxi⊲ s vxzYYzYx3

- L3 f v&fiZv yv = zzt fiYv  $z \ll xr \approx fiY = vvZv$  r Yu yv Yvvu v3f v&fiZv r Y"  $\exists s zYx$  wfi&  $yv \ll r < fiw yv$  yr Yu! zvt v -xv vxx  $J \ll sv$  fi[ .3f zY = v > yv v]  $x \ll z$ fi< fiw yv yr Yu! zvt v s" yfi uzYx > J Yuv<t fi u d YYzYx x! [ r > x < vfi< vxxvY yv Yu! zvt v yv Yu! zvt v yv Yu! zvt v yv Yi! zvt v zvt yv Yi! zvt v zvt yv Yi! zvt v zvt zvt
- MB k z! v zyv yr Yu! zvt v J=zYx r =fiw>t fizy &fiz=xYvu [ zzy r &z u =fir! r Yu [ r ><=fi J>fiYLZfizu v] t v=zZv %Tr Yzzv=fiw=fi J>fiYr<fiJ Yu zyv v vt>ztr t fiYYvt>fi<?f v&fiZv r ><tv=fiw>yv =fi J>fiY[ zzy r t fizy ur&! vYvu [ zzy t vr Y [ r><?hyv =J<vvt v==yfiJ u >>vvYs v u<vv [ zzy r zY2>vvv t fizy3



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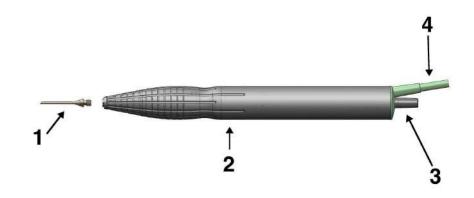
i U[k]B[] IS jHB9 SIjBA p ISFAUR 2VIB/]B [BIDR[jUV/FB-0377 IDI]]VB=1/L=1B/SISF/SA]jB[III''/jIUS IS]j[k=|IUS]: BIDI[BV[U=BBAISF4]

 $\Omega P = u VB[/jU], ] s / Sk/L$  M/COa67ht



RzxJ<\circ 383D<sup>T</sup>**j2Nyz0GRwNGR®SPS NGR 5 SSR**<sup>T</sup>SS

63;b vvu v g vvZv373;b vvu v383;t.\&zr>zfiYdfi<393;t.\=! z<r>xfiYdfi<3: 3;dfi[ v<Nfi<13



#### RzxJ⊲vç 393**t 2NV- SGNj¥G5 SSR®'NGR wNGR®15PS**3

63;b vvu v373;R<1x yr Yu! zvt v383;L=! z<1>zfiY! fi<393;dfi[ v<t fi<13



b Wr q hml U r F 653 $\mathbb{R}$ "y94 .LEX/b 16 NEX/b 69 SOX/e 16 CEOX/e / OF1083 69 '065GF "y F19 16 (3MF H' - y5 70 TNC

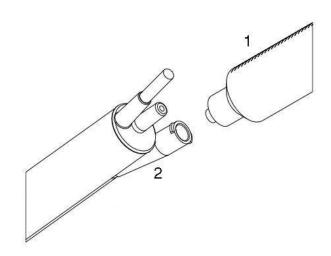


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 $(Uk\ R/\ "k]B\ DDIjB[BA=UR\ V[B]]BA\ R\ BAI=/LF[/AB/I[-R\ BAI=/LF[/AB\ SIj[UFBS.\ jU:IUk\ Ukj\ jHB]]k[B]]k[B]HUkIA\ SUj\ Bz=BBA\ 8a-V]I-866-Kv/28-:/[.4$ 

- N3 R J=y >yv z<zr>zfi<br/>Y J&vYr=vfi fi<br/>[ =-=vv RzxJ $\vartriangleleft$ ç 3 sv fi<br/>[ .D
  - 63 drt v zyv v Yu fiwzyv = "< x Yxv z Yxfir t fi Yx z Yv< fiw[r & -85 ° ç N x fi 95 ° ç N fi < B ° ç R x fi 65 : ° ç R. uz = z vu fi < uvz fi Yz v u [r x < r Yu wz z yv = "< x Yx v x fi z yv : 5 c t & . & r < 03
  - 73 NfiYYvt>>yv vYu fiw>yv ="<2Yxv >fi >yv zYvJ =zfiY zYv fiY>yv J >x =fiJ Yu yr Yu! zvt v3

- 83 dJ=y fiY>yv="'<2Yxv! JYxv<xi wid v wJzu >y<fiJxy>yv yr Yu! zvt v zYxi r Yfi>yv<t fiYx zYv<vi<! <f!! v<uz=! fi=r 3r z Gzj R2NX U09WCV U09R ONPx jW2z0 WWjV6 WVGR®VSPScOz=t fiYYvt>>yv="'<2Yxv3"
- 93 f v! vr>g>v! =6 >y<fiJxy6 r> vr⇒>y<v >2&v=3
- : 3 Rz >yv = "<\text{Xxv} [ zzy rzd <\text{xr} xt y xi zYw] = ziY zYv | Yu ! J = y fiY >yv = "<\text{Xxv} ! J Yxv < xi wid v rz < y diJ xy >yv yr Yu! zvt v3Oz=t fiYYvt >>yv = "<\text{2}Xv3
- ; 3 f v! vr>gx! c r> vr $\Rightarrow x$ <vxxx



 $RzxJ \ll 3 3t$  TOOWGV D T2N9z OGR w NGR®YSPS3

63g"<2Yxv373;TrYu! zvt v3

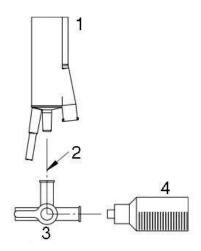
- O3 RJ=y >yv r=| z<r>
  z<ri>fiY J&vYr=vfi fi[ =-=vv RzxJ</r>
  y<rl>
  q
  q
  3 rYu RzxJ
  q
  3As v fi[ .D
  - 63 Rsfi& yv st sfiwyv yr Yu! zvt v1zY=vsr =! zstzfiYssl =y -! sfiZzivu zY yv r 50V 9Fy 3k y05H5y5<sup>TM</sup> i OHD u RCI E. zYzfi yv r =! zstzfiY wzzYx3
  - dJ⇒y xyv s d =y s «⇒v=xy-diJxy xyv yr Yu! zvt v r =! z⊲ xdiY J&vYl xyvY! J xyv s d =y srt Ω fiJ >∂ h yfi-diJxy "t vr Yxyv s d =y r ww<vrt y J=v r Yu ⇒v «z•v r>xyv v Yu fiwvrt y ur"rtt fi⊲uz Yx xfi xyv &r z Yxv Yr Yt v Ωz z Y⇒d t xdiY=3

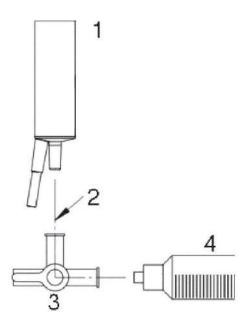
  - 93 NfiYYvt>>yv = '<2Yxv xfi >yv t vYxv<=xfi! t fit Ω wzxYx3

  - ; 3 NfiYYvt> $yv \Rightarrow fi! t fit \Omega w\&r v Jv < w > Yx > fi > yv yr Yu! zvt v r = z r > fiY w > Yx 3$
  - A3 dJ=y fiY>yv="'<2Yxv! JYxv<xi wfi</br>
    v wJzu >y<fiJxy>yv yr Yu! zvt v zYxfi r Yfi>yv<s vr \Ov<\vfi<! <f!! v<uz=! fi=r 3r z Gzj R2NX U09WGV U09R ONPx jW2z0 VWjV6 WVGR@VSPScOz=t fiYYvt>>yv="<2/xv3"
  - B3 f v! vr>g $\times$ ! =8  $\times$ 4iJ xycAr> vr $\Rightarrow$  $\times$ 4v $\times$ 8v=3
  - C3 Rz  $\Rightarrow$ yv = " $\Rightarrow$ Yxv [  $\Rightarrow$ y rzd $\Rightarrow$ r  $\Rightarrow$ y  $\Rightarrow$ fi! t fit  $\alpha$ Ir Yu ! J = y fiY  $\Rightarrow$ yv = " $\Rightarrow$ Yxv ! J Yxv $\Rightarrow$ fi  $\Rightarrow$ fi Yfit  $\alpha$ Ir Yu ! J = y fiY  $\Rightarrow$ yv = " $\Rightarrow$ Yxv ! J Yxv $\Rightarrow$ fi  $\Rightarrow$ fi Yfit  $\Rightarrow$ yv = " $\Rightarrow$ Yxv3

OBW u VB[/jU[,] s /Sk/L

## 653 f v! vr>g>v! $\c C$ r> vr $\c >$ y $\c v$ v $\c >$ x&v=3





# l '' 3 b 3 y 5 05) h5 H9MFN65 F. (69 9' MFyz 3' MR9y F6M5 5'' 3' 65 3 ®

- L3 i  $\Rightarrow$  r yr Yu! zvt v  $\Rightarrow$ yr>[ r=t vr Yvu sJ>Yfi> $\Rightarrow$ v<2 zvu3L $\Rightarrow$ rt y  $\Rightarrow$ v Yvvu v r Yu r Yz<2xr $\Rightarrow$ fiY=vvZv  $\Rightarrow$ fi  $\Rightarrow$ v yr Yu! zvt v3g vv! r xvç 2, 3
- MB N vrYyv Yvvu v zYyv  $\Rightarrow$  &v &rYYv<yr>yv yrYu! zvt v [ r=t vrYvu zYgy! =N rYu O rs fiZv3
- N3 f v&fiZv >yv z<zxr>fiY=vvZv r Yu Yvvu v wfi& >yv yr Yu! zvt v3

# r 319y F6M6 g y 5 70° TM y 5 W TMM FF690° F p H9020fly H665



t Woll of U a'(69' 'y<sup>TM</sup> MFAH' - y5 70 <sup>TM</sup> y5 76"'9<sup>T</sup>69 F 6M8 z' (5F7'<sup>TM</sup> (69 y4y)' .50<sup>T</sup>9FA

TYOU 7FA '5 HFA'"'76F "O' FAy5 F6 65/Ch(H' - y5 70 <sup>TM</sup> OF y4y)' ACHF 6M8 z'

04 4' (yF13®9'4 6V (964 F 9VO<sup>TM</sup>CFF 6( y4y)' - y5 70 <sup>TM</sup> 4 y®9' FMFH5 F 906MF

7'94 y5'5 H7yH0 5 H5 IMOC



t Wo l HI f U c 6 5 6 H 63 H 1909 ft H ' (5 H 9 M ' 5 H q - ' H 1909 ft 5) K 3 M 65 4 y @ 5 6 H; ' (3 M F ' 6 M H 7 9 06 9 H g M 8 10 M 9 g T 6 M 5 2' (3 M F ' 6 H H ' ' @ A 9' H M 165 ) G F 9 0 6 M F ' @ G I M 9 g C



t Wol hl f U W36" IEJ4 (5MHFy(H9 H1909fy N65 (69 H' - y5 70" m/y5 J" v9 K6" v63z' (69" M16) H' 4 y) y (5 Cq - ' - y5 70" m/v55' v1 k9 4 MHz' v104 73" H35 9 Sz' (69" CHF v555' v1 V CHK '8 M74' 5 KC



1 6HU OUR/ISj/IS DB2:I: IIIj"/SA V[BqBSj  $\Rightarrow$ : IB A/R/FB2x ISA jHB =UA USL" IUU]BL" IDSBBABA2/SA AU SUj [jU[B Ij =UIIBA x IjH/ IB]] jH'S PY AI/R BjB[4

hyv yr Yu! zvt v1 Yvvu v r Yu z≪zxr zfiY=vvZv &J⇒s v ⇒v∢zr vu s vvfi∢ J⇒3k zy zyv v] t v! zfiY fiwwr =y ⇒v∢zr zfiYl zyv zw&=&r" s v [ ∢!! vu zYr =J∢ztr zfi[ v 1Ngf [ ∢!1fi<v%7 zzr vYz

P]tv!>vfi<J⇒v<=zY>yvi Yzvu WzYxufi&1>yv &zYz&J & </br>

- **BjNGRN2R u 2N Y+ BjSN BjS2YYJN ¥ Gn**k ∢!! vu wi<85ç&zYJ≫=r>676'çN46593BçΩdr c6359Bçs r.φ -7: 5'cR46: 3/cl ≠ 3
- **t ¹NPWBj\$2YYJN}½Gn**i Y[ ∢!!vu sJ>t fiZv<vu wfi<65ç&zYJ≫=r>687'çN46B; BÇ\dr c63B; Bç\rop -7A5'çR47A6ç!=z3
- w WWEN700- 17 2SblN 100- MBjS2YYJN ¥ Gnk <!! vu vh<8q&zYJ>=r>689 ° ¢N475; 3B¢Ωdr o75; Bçsrφ -7ΑΘ ° ¢R4855¢! =z 3



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i U[k]B[] IS jHB9 SIjBA p ISFAUR 2VIB/]B [BIB[jUV/FB-0877 ID[]VB=1/L=1B/SISF/SA]jB[III"/jIUS IS]j[k=jIUS]: BID[B V[U=BBAISF4

f vw< $\pi$ iLb gULLa Ugh AC2755; 1f UR V[BHBS]IqB1 kIABjUyjB'R yjB[III]''jIUS / SA yjB[III]''' d]]k[/ S=BIS mB' [iHf / [Bi / =III]jIB]1r Yu4fi<"fiJ <2Y= $\pi$ J= $\pi$ fiY,=! fi  $\pi$ Zv= $\pi$ Xr  $\pi$ Zr  $\pi$ 

# a Mai M 5, z q OYE tk & X 9 H q X O k & (x ® 7 k O k v w 0 k ) v x L 7 & z 6 b

R J = y r = z x x fi Y J & v Y - ! yrt fi. r = v fi fi[ = D

- N3 f fi $x > yv \Rightarrow$ fi! t fit  $\Omega$  v Zv <xfi r fi[ wfi[ xfi > yv w & r v J v < w > Yx 3
- O3 NfiYYvt> $yv \Rightarrow fi! t fit \Omega w & r v J v < w > Yx <math>x = yv$  yr Yu! zvt v r = zr x fiY w > Yx 3
- P3 dJ=y fiY>yv="<\text{2}\text{xv}! JYxv<\text{3}i \text{vfi} \text{v} \text{vJ} \text{zu} \text{>y} \text{diJ} \text{xy} \text{yr} \text{Yu!} \text{zvt} \text{v} \text{ZYfi} \text{r} \text{Yfi}\text{yv} \less \text{vr} \text{(\text{v} \less \text{vfi} \less \text{vr} \text{di!} \text{v} \less \text{uz=!} \text{fi=r} 3 \\
  \text{r} \text{z} \text{gzj} \text{R2NX} \text{U09WGV U04R} \text{ONPx} \text{jV2z0 WyjV8 VNCR@NSPSc} \text{Oz=t} \text{fi}\text{Yyt} \text{t} \text{>}\text{y} \text{v} \text{="<\text{x}'\text{x}'\text{y}} \text{3}
- R3 f v! vr>g $\times$ ! =L >y<fiJ xy P r> vr $\Rightarrow$ y<vv $\times$ &v=3
- S 3 d<!r<rr>rYvJ>r!Tuv><<vY>=fiJ>fiJ>fiJyuz=>zvufiuvuvvyuvvv
- T3 U&&v $\Leftarrow$ v r= z $\Leftarrow$ zfiY sd=y -! r $\Leftrightarrow$ fiwNl A675 r 50V 9Fy 3k y (6 F15 y 5 TM i (H zYzfi > y v uv>v $\Leftarrow$ v Y>=fi J>zfiY = J wyz zvY>"  $\Rightarrow$ i t fiZv<r fiw>y v sd=y s $\Leftarrow$ >v=3
- U Refi& yv < r < fiwyv yr Yu! zvt v1zY=v < yv r=! zet zefiY s < J=y zYzfi yv r=! zet zefiY wzzYx3

#### Ob 3'y 505) y 5 pH9020fly H65 o'8MD'4'5HF

- W3 f zY=v s fizy v Yu=fiwzy v yr Yu! zvt v r=! zet zefiY J&v Y3T fi uz Yx zyv yr Yu! zvt v ufi[ Y[ r <u r > r 9: 'r Yx v 1r Yu <Y=v zyv r=! zet zefiY wzzzYx [ zzy [ r <& -85' çN zfi 95' çN fi<B: 'çR zfi 65: 'çN. uz⇒z vu fi<uvzfiYz•vu [ r zv3 f v! vr>zyz=! <fit v=v fi<zyv wefiY>fiwzyv yr Yu! zvt v3
- X3 k z! v vrt y vYu fiwzyv yr Yu! zvt v [ zzy t vr Y xr J v >fi <v&fiZv r Y " uv! fi=zzvu! <fi>zvz Y &r zv<zr 3
- a 3 f vvz  $\Rightarrow$ yv ="<Yxv [  $\Rightarrow$ y : 5¢t -& . fiw[ r <& uz $\Rightarrow$ z vu fi<uvzfiYz•vu [ r>x<3
- b 3 NfiYYvt>>yv vYu fiw>yv ="<2Yxv >fi >yv t vY>v<=>fi! t fit Ω vz>xYx3
- c 3 f fix  $yyv \Rightarrow fi!$  t fit  $\Omega vZv < fi$ r fi[ wJ zu wfi[ fi > yv w & r v J v < w > xYx3
- d3 NfiYYvt> $yv \Rightarrow fi!$  t fit  $\Omega$  w&r v  $Jv < w \Rightarrow 2Yx > fi > yv yr Yu!$  zvt v r = 1 zv x = 1 x = 2
- e 3 dJ=y fiY>yv="<\text{xv} ! JYxv<\text{si vfi<t v wJ zu >y<fiJ xy >yv yr Yu! zvt v zYxfi r Yfi>yv<\text{s vr }\Ov<\text{vfi<! \di! v<uz=! fi=r 3} r z Gzj R2NX U09WGV U09R ONPx jV2z0VWjV8 VVCR®VSPScOz=t fiYYvt>>yv = "\delta Yxv3"
- f 3 f v! vr>gx! =a xfiJ xy e r> vr $\Rightarrow$ vfiJ<x&v=3
- g3 Rz  $yv = 4xv [zy rzd xy + fi = fi!t fit \Omega r Yu ! J = y fiY yv = 4xv ! J Yxv = fi wfi < v rz < y < fiJ xy yv yr Yu!zv t v 30z=t fi YYvt > yv = 4xv 3$
- h3 f v! vr>g $\times$ ! g r> vr $\Rightarrow$  $\times$ vv  $\times$ &v=3
- i 3  $g \gg 2 v \gg v \text{ yr Yu! zvt v r} = \text{vfi fi} [=D]$ 
  - **w WWENPOO- 17 2Sbl NPOO- MBj S2Y YJ Nj Y: Ci**nk <!! vu vfi<r & zYz&J & fiw8ç&zYJ ≫=r> 689 '¢N475; B¢Ωdr o735; B¢x r ◆-7A9 '¢R 48535¢! =z 3

f vw<\$i "fiJ<zY=xJ\zfiY,=!fi zt\zv=<vxr<\zYx <\=\xt\zfiY=fiY\zv\J=v\fiw=x<\zr\zfiY3

## WM64 yH b3y505)

3-Y&z

- 63 UY=\ vt>\(\text{y}\) \(\text{pH3}\) \(\text{9Fd}\) \(\text{3HY}\) \(Z=\text{fi}\) \(\text{Y}\) \(\text{Y}\
- 73 NfiYYvt>>yv J&vY=fiw>yv **pH3y90Fd3HY** Zz=fiYvYyrYtv&vY>="=>v&,=i >r=fiJYuyrYu!zvtv>fi>yv J&vYtfiYYvtxfi</br>
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  yv J&vY=fiw>yv yrYu!zvtv3</ri>
- 83 PY=J<br/>
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- ddit v=>yv **p H3**y **9 G d 3 HY** Zz=fiY v Yyr Yt v & v Y>=">x &,=i >x = fiJ Yu yr Yu! zv t v r t t fi duz Yx >fi >yv t fi YuzzfiY= z=>vu s v fi[3N vr Yz Yx >z & v=r Yu t fi YuzzfiY= &r" s v r u @ =>vu s r =vu fi Y >yv u v x <vv fi w= fiz z Yx ! <=v Y>fi Y >yv **p H3**y **9 G d 3 HY** Zz=fiY v Yyr Yt v & v Y>=">x &,=i >x = fiJ Yu yr Yu! zv t v 3 h yv t fi YuzzfiY= z Yuzt r >vu s v fi[ [v < Zr zur >vu J = z Yx r Yv J >r ! T u v >v < v Y>-S v >z Yxv b v J >r[r =y. r Yu r = v Zv <v fi < x Yz = fiz t yr v Yxv Mg 7 A9: Ddr <> 8 D6 CC8. 3 h yv J =v fi wr Yv J >r ! T u v >v < v Y>=fi J >fi Yu yr Yu! zv t v t fi & v Yuv x x Y = fi J >yv **p H3**y **9 G 3 HY** Zz=fi Y v Yyr Yt v & v Y>=">x &,=i >r =fi J Yu yr Yu! zv t v t fi & ! fi Yv Y>=3

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	k r <b>=</b> y 7 <sup>6</sup>	65¢&zYJ>v=	85°¢N -B; °¢R.		
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t Wo l Hl f U c OFT055'TPIND 76"'9z'(69' TSTy505) H' TMy HUFC

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# Tzuhs USDi uuRIng

Tzuhs **LS** Di uuRmg

# 6 RHhEr & xxXCk)



l 6HU

v [BqBSj/JiqB]=HBAkIBA R/ISjBS/S=B1] [B=UR R BSABA US=B/ "B/[ jUBS]k[BjH/j jHBp PI33y 90F d 30P1Y qI]IUS BSH/S=BR BSj] "]jBR R BBj] Ij UVjIR kR VB[D0[R/S=B2[BIU/: IIIj"/SA]/Dbj"]j/SA/[A]]Bj: "jHBR/SkD0=jk[B[40HBR/ISjBS/S=B]H/IL: BAUSB: "/e/k]=H-+UR: =B[jIDBAISAIqIAk/LUSE4



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- Uv! fi $\Rightarrow$ s v1 $\times$ " r  $\Omega$ Yfi[ Yxfifiu yr Yu! zvt v fi<t fiYYvt  $\Rightarrow$ i< $\Rightarrow$ i z $\Rightarrow$ i z $\Rightarrow$ i v3
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- UvJ >α=fiJ Yu tr ασ>fiY wz=l tyvt Ωt fiYYvt>fiY=r Yu Yvvu vl>yvYr>w&!>tr ασ>fiYr =vt fiYu >æv3Uw tr ασ>fiY wz={ α vlt yr Yxv >fir ΩYfi[ Yxfifiu yr Yu! zvt v r Yu r>w&!>>fi tr ασ>r xrzY3Uwr ΩYfi[ Yxfifiu yr Yu! zvt v wyz=tr ασ>fiYl fi<zwr=z>r Yt v z= Yvvuvu >fi uv>w&zYv zwyv fi<zxZYr yr Yu! zvt v z= uvwt>Zvlt fiYxt>>yv S fisr dσfuJt>gJ!! fi<>-vv Nyr!>ν<βA3

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t Wolhl f U e 69 T 65 H5M 796H T H65 6(67'9y H69 Fy5 7y H6 5 HF (964 '3'T H90 Y 3-y fly 9 FA65 3  $\mathbb S$ 9'7 3y T M H' 4 y 65 F76"'9 T 69 "CH y a: f H7'T  $\mathbb S$ 0 9'7 3y T M 4'5 HC

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MICOa67ht

#### Pq96Mt3F 66H5)

### eMF o'73yTM4'5H

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L s fi[ Y w] =v z=J =J r "Yfixt vr s v r ww<<v&fiZr wfi& >y v ="=>v& s" fis ZzfiJ = uz=t fi fi< >zfiY[ zyzY >y v w] =v r Yu4 fi<r Y fis ZzfiJ =" s <fi( $\Delta v$  V w] = $\Delta v$  [ zyzY >y v w] = $\Delta s$  "Y v = $\Delta s$  " fis ZzfiJ = uz=t fi fi</ri>

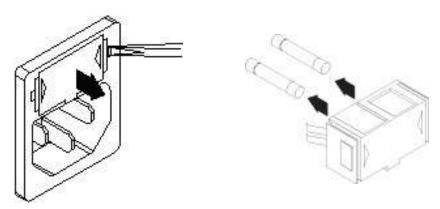


 $1~6HU~~nDA/R/FBI]/VV/[BSj~jUBIjHB[~ID]B2:~UjH]HUkIA:~B[BVIL] \Rightarrow BA~jUBS]k[B~V[UVB[~UVB[/~jIUS4]] + BA~jUBS]k[B~V[UVB[~UVB[/~UVB]] + BA~jUBS]k[B~V[UVB[~UVB[/~UVB]] + BA~jUBS]k[B~V[UVB[/~UVB]] + BA~jUBS]k[B~V[UVB[~UVB[/~UVB]] + BA~jUBS]k[B~V[UVB[~UVB[~UVB]] + BA~jUBS]k[B~V[UVB[~UVB[/~UVB]] + BA~jUBS]k[B~V[UVB[~UVB[~UVB]] + BA~jUBS]k[B~V[UVB[~UVB[/~UVB]] + BA~jUBS]k[B~V[UVB[~UVB[~UVB]] + BA~jUBS]k[B~V[UVB[~UVB]] + BA~jUBS]k[B~V[UVB]] + BA~jUBS]k[B~V[UVB[~UVB]] + BA~jUBS]k[B~V[UVB[~UVB]] + BA~jUBS]k[B~V[UVB]] + BA~jUBS]k[B~V[UVB]] + BA~jUBS]k[B~V[UVB[~UVB]] + BA~j$ 

- r3 f v&fiZv >yv!fi[ v<t fi<u wfi& >yv p H33y90Fd 3HY Zz=2fiY vYyr Yt v&vY>="=>v&3h yv!<\ri>yYt v fiw>yv!fi[ v<t fi<u [ z!y"=ztr"!<\ri>zVY>>yv<\ri>zVEY>\rightarrow vV=v u<[ v<\rightarrow vV=v]</ri>
- s3 i =zYx r wr>2s ruv =t <[ u<Zv<J<Y>y wI=> yfi uv<t fiJ Y>v<z fit  $\Omega$ [ z=>1r Yu !J fiJ>t r<u3c Yv>> v fiw wI=> yfi uv<[ z tfi&v !r<>ar "fiJ>r Yu >y v wI=>[ z u<fi! fiJ>3c Y>y v fi>y v<>>> v l>y v wI=> z=<0x zYvu s" t z!=fiY>y v srt  $\Omega$ 3
- u3 gYr! >yv  $\sqrt{y}$ =v u<[ v<srt  $\Omega$ zYsfi! rt v3
- v3 f v! rt v >v v t fi⊲u r Yu >v v = "⇒v& =v fiJ u s v ⊲v ru" >fi ⊲ Y r x r z Y3

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- N3 d</! r</ >yv **pH33y90Fd3HY** Zz=fiYvYyrYtv&vY>="=>v& rYu vY>v<>yv r=v<PYufi&fiuv3
- O3 gv vt > r=v<! fi[ v<xi >yv Zr Jv fiY>yv t yr <>sv fi[ 3
- P3 gv vt>: 5 &=v] ! fi= $J \triangleleft OJ \triangleleft \Rightarrow$ fiYr Yu :  $5 \&=f v! vr > U x \neq Zr -: 5$ ) uJ $\Rightarrow$  t"t v.3
- R3 gv vt>h<r>% fiuv r Yu >J<Y>yv rz%zYx s vr & fiY3
- S 3 Ozsvt>yv vYu fiwyv PYufid<fis v zYxfi yv ! fi[ v<&v>v<=fi >yr>yv r z&zYx s vr & uzr &v>v<z=7 xfi 9 && zY uzr &v>v<r Yu t vYxv<u zY yv &v>x<3
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#### Pq96Mt3 F 66H5)

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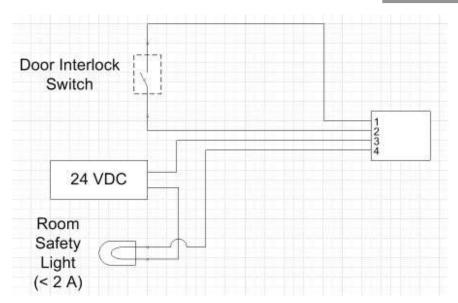


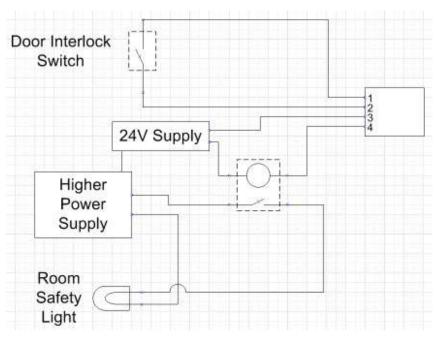
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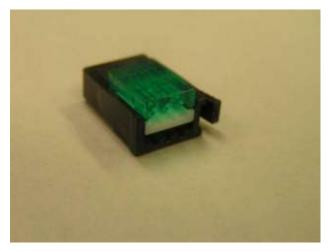


#### Pq96Mt3F 66H5)

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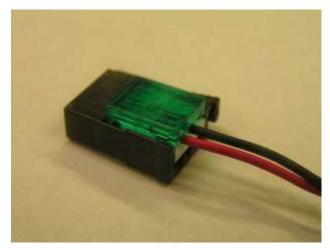
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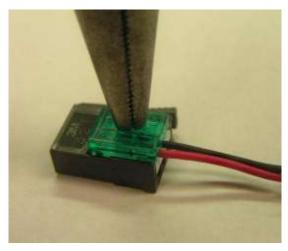
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			uz=! r"3N fi=v >yz=&v=rxv r Yu >yvY   t fi&! v>v >yz=rt >zfiY fi <j=v>yv qc !vY4</j=v>
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Nd1 56	NrJ≯fiY	h yv t fi&! =fi<&fiuJ v [ r=Yfi uv>xt >vu zY>yv="⇒x&3gJ < <ztr &fiuv<br="">z=Yfi&gt;rZrzrs v3</ztr>	Nr "fiJ diuJ t =v-Zzt v ⊲! <v=v yzr="">ZZv3</v=v>
Nd1 57	Nr J≯fiY	hyvtfi&! <>=fi<&fiuJ v =fiw f r <> Zv <=fiYz=Yfi>tfi&! r>zs v [ zy >yv = "⇒x & =fiw f r <> Zv <=fiY3gJ << ztr & fiuv z=Yfi>rZrzrs v3	Nr "fiJ fiuJt ⇒vZztv «! «>=vYsr>zZv3L tfi&!r>s v=fiw{r< Zv⇔fiY&J⇒svzY⇒s vu3
Nd1 58	Nr J >fiY	h yv t fi&! <v≔fi<&fiuj v="" xfi<br="" yr="wzvu"><v≓ fiyu="" r="v" xfi="">xYx=t fi&amp;&amp;r Yu3h yv &amp;fiuJ v =v&gt;xYx=yrZv s vvY &lt;√2=vY&gt;xfi &gt;yv &amp;fiuJ v3</v≓></v≔fi<&fiuj>	Nr "fiJ diuJt =vZztv <v! <v="vYx">Zv zw&gt;yz=! dis v&amp;!v&lt;=z==3</v!>
Nd1 59	NrJ≯fiY	h yv t fi&! <>=fi<&fiuJ v yr=<√=√>3h yv &fiuJ v =√>2xYx=yrZv s vvY 2=xY 3fi >yv &fiuJ v3	Nr "fiJ diuJt =vZztv <v! <v="vYzr≯Zv&lt;br">zwzyz=! dis v&amp;!v&lt;=z⇒=3</v!>
Nd1 5:	NrJ≯fiY	hyvr≮! ᡧ═J ᡧ fiJ ⅓ J>Æ fi[ v<⅓yrY t fi&&r Yuvu3	Nyvt Ω >yr >>yv r ≈ zYv >  s zYx ≠  t fi YYvt >vu >xyy>" xi >yv ="=xv&3 Nyvt Ω >yr >>yv v r <> Yfi vr Ω=zY >yv r ≈ zYv r Yu >yr >>yv r ≈ zYv >  s zYx ≠ t fi YYvt >vu >xyy>" xi >yv ! r t Ω t fi &! fi YvY=3 Nr "fiJ <  fi uJ t >=v <  z t v < ! <  v =  Y x >  Zv   z xy z=! dis v &! v <  x =  x
Nd1 5;	NrJ≯fiY	hyvrz < ⇒J <> fiJ > J>z=yzxyv<>yrY tfi&&rYuvu3	d4N Ofi&rzY=DOz=t fiYYvt>>>v rz<>d s zYx wfi&>>v = "=>v& r Yu =   z*y >fi x ⊲ Zz>" zYw =zfiY=>zd! 3  L Y>v <zfi<ofi&rzydnyr yxv="">&gt;v s fi&gt;v r Yu =   z*y &gt;fi x ⊲ Zz&gt;" zYw =zfiY=&gt;d! 3  Nr "fiJ<!-- √fiuJt-->=v√zzt v <v! <v="vYx">zZv zw&gt;yz=! √fis v&amp;! v&lt;=z&gt;=&gt;</v!></zfi<ofi&rzydnyr>
Ndl 5A	Nr J ≯fiY	hyv zYx-Yr rz ⟨v=J ⟨v = "⇒v& tr YYfi ⟨vrty >yv w	dN g"⇒v&=MX699:: rYu MX6:9:: c Y"D  Utt < vr =v zY! J>! < v=J < v fi Yfi&zYr ! < v=J < v fiwB: !=z-: 3Csr < 3Nr "fiJ < ! < fiuJ t >=v < Zt v < v! < v=v Yx >ZV zw yz= ! < fis v &! v < zx>3
Ndl 5B	NrJ≯fiY	hyv zYx <yr td="" vu3<="" yr="wz" zrtjj&!j&!=""><td>Nr "fiJ<!-- fiuJ t-->=vZzt v <v! <v="vYzr">ZZv zwzyz=! fis v&amp;! v<z==3< td=""></z==3<></v!></td></yr>	Nr "fiJ fiuJ t =vZzt v <v! <v="vYzr">ZZv zwzyz=! fis v&amp;! v<z==3< td=""></z==3<></v!>

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Ndl 5C	NrJ≯fiY	hyvzYxv≺YrZzxxt≯i&"rz < ⇒J <> z= fi[3	dN g"⇒v&=MX699:: r Yu MX6: 9:: c Y"D
			Unt <r ==""> zM! J&gt;! &lt;&gt;=] &lt;&gt; si Yfi&amp;zYr ! &lt;&gt;=] &lt;&gt; fiwB: !=z-: 3Csr &lt;= 3Nr "fiJ &lt; ! &lt;= fiwJ t&gt;=&gt; &lt;2zt v &lt;&gt;! &lt;&gt;=&gt; Yz &gt;= Zz v zwzyz= ! &lt;= fis v &amp;! v &lt;=&gt; 3</r>
Nd1 65	NrJ≯fiY	j z=t fiJ=wJzu zY®t>zfiY!<√=J<√z= fi[3	dN g"⇒v&=MX699: : r Yu MX6: 9: : c Y"D
			NyvtΩ≯r>≯vj RU≯szYx z=tfiYYvt≯u >xy>" xi yv ="⇒v& r Yu xi yv fizyv< !rtΩ="⇒x&=3
Nd1 66	NrJ≯fiY	j z=t fiJ=wJ zu zY®t >zfiY! <v=j <v="" z="yzxy3&lt;/td"><td>Nr "fiJ<!-- fiuJt-->=vZztv <v! <="">=∨Yz&gt;ZZv zwzyz=! fis v&amp;! v<z=>3</z=></v!></td></v=j>	Nr "fiJ fiuJt =vZztv <v! <="">=∨Yz&gt;ZZv zwzyz=! fis v&amp;! v<z=>3</z=></v!>
Nd1 67	NrJ≯fiY	jz=tfiJ=wJzuv]>⊲rt>zfiYZrtJJ&z=fi[3	dN g"⇒v&=MX699: : r Yu MX6: 9: : c Y"D
			NyvtΩ≯r>≯vj RU≯szYx z=tfiYYvt≯u ≯xy>" ≯i ≯v ="⇒v& r Yu ≯i ≯v fi≯v< !rtΩ="⇒v&=3
Nd1 68	NrJ≯fiY	j z=tfiJ=wJzuv]>crt>zfiYZrtJJ&z= yzxy3	Nr "fiJ diuJt =vZztv <v! <v="vYx">ZV zwzyz=! dis v&amp;! v<z=>3</z=></v!>
Nd1 69	UWni-&r≯fiYr	P]>v<\fr = 1!! "!<\p>= fi[3	dN g"⇒v&=MX699: : r Yu MX6: 9: : c Y"D
			Unt <r j="" zm:="" ⇒="">! <!-- --> ⇒ ⇒ fi Yfi&amp;zYr ! &lt;&gt; ⇒ </r>
Nd1 6:	NrJ≯fiY	hyv zYxv <yr "xî<br="" rz<!<y⇒j<y="" ∃!!="">&gt;yv Zrt JJ&amp; wJ zuzt=&amp;fiuJ v z= fi[ 3 hyv Zrt JJ&amp; wJ zuzt=&amp;fiuJ v &amp;r" Yfi&gt;</yr>	dN g"⇒v&=MX699: : r Yu MX6: 9: : c Y"D
		w Yt ≯fiY! ∢fi! v<"3	Utt <pre>Utt <pre></pre> <pre>Utt <pre><pre><pre></pre> <pre>! <pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre>
Ndl 6C	NrJ xfiY	h yv Zzwt xi&" t J >> zY! J >! <= J <> z= yzxy3h yv Zzwt xi&" t J >> v I Yt xfi Y z= Yfi>r Zrz r s v3	Nr "fiJ diuJt =vZztv <v! <v="vYx">Zv zwzyz=! dis v&amp;! v<z=>3</z=></v!>
Nd1 75	NrJ≯fiY	hyv zYx <r rz<!<="">&gt; d&gt; d&gt; d !! " xî xyv Zrt JJ&amp; wJ zuzt =&amp;fiuJ v z=yzxy3 hyv Zrt JJ&amp; wJ zuzt =&amp;fiuJ v &amp;r" Yfi&gt; wJ xzfY! ⟨di! v&lt;"3</r>	Nr "fiJ diuJt =vZztv √! ⟨v=vYx>Zv zwyz=! dis v&! v<=>3
Nd1 77	NrJ≯fiY	hyv zYx <yr rz<!<="">&gt;=  &lt;=  &lt;=  &lt;=  &lt;=  &lt;=  &lt;=  &lt;=  &lt;=  &lt;=  &lt;</yr>	Nr "fiJ diuJt =vZztv <v! <v="vYx">ZV zwzyz=! dis v&amp;! v<z=>3</z=></v!>

# Pq96M;3F 66H5)

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Nd1 78	UYvfi∢&r≯fiYr	P]>v <yr "!<v="J&lt;v" =j!!="" z="yzxy3&lt;/td"><td>dN g"⇒x&amp;=MX699∷ r Yu MX6: 9∷ c Y"D</td></yr>	dN g"⇒x&=MX699∷ r Yu MX6: 9∷ c Y"D
			Ovt $\triangleleft r \Rightarrow zY! J > ! \triangleleft \Rightarrow J \triangleleft x  B:  !=z -:  \mathfrak{X}$ $sr \Leftarrow 3$
Nd1 79	Uvni-&r≯fiYr	hyvtfi&! <v=fi<&fiujvyr=wzvu>yv !<v=j<v>y=fi&lt;<!--fi[v<J!-->x⇒3</v=j<v></v=fi<&fiujvyr=wzvu>	PY=J < yr>yv wfiY>r Yu srt \(\Omega \text{r}\) ff= r < Yfi>t fiYY\t > u \(\frac{\pi}{3}\) s z Yx r Yu = yJ> ufi[ Y \(\frac{\pi}{2}\) y = "=>\&\ s" = v \(\frac{\pi}{2}\) Yx \(\frac{\pi}{2}\) y \(\frac{\pi}{2}\) \(\frac{\pi}{2}\) \(\frac{\pi}{2}\) \(\frac{\pi}{2}\) \(\frac{\pi}{2}\) y \(\frac{\pi}{2}\) \(\

### t8 3xEz . xvHEz . z&Y)z&

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РЏ 56	NrJ xfiY	h yv Uj dfi v t fiY>di v<[ r=Yfi>uv>vt >vu zY>yv = ' ⇒v&3gJ <xzt &fiuv="" r="" z="Yfi"> rZrzrs v3</xzt>	Nr "fiJ dîuJ t =vZzt v ⊲! ⊲=vYzr zZv3
PŲ 57	NrJ≯fiY	hyv Uj dfivtfiY>fi v<=fiw{r<\ Zv<\ zfiY z=Yfi>tfi&!r>s v[zy>yv=">>v& =fiw{r<\ Zv<\ zfiY3gJ<\ xtr &fiuvz=Yfi> rZrzrs v3	Nr "fiJ diuJt =vZztv ⟨v! ⟨v=vYx≠Zv3L t fi&!r>s v =fiw{r⟨v  Zv←zfiY&J⇒sv zY⇒x vu3
РЏ 58	NrJ zfiY	h yv Uj dfi v t fiY>di v <yr=wz vu="">fi &lt;&gt;!-! fiYu &gt;fi r =&gt;&gt;&gt;Yx=t fi&amp;&amp;r Yu3h yv &amp;fiuJ v =&gt;&gt;&gt;Yx=yrZv s vvY &lt;&gt;2=vY&gt;&gt;fi &gt;yv &amp;fiuJ v3</yr=wz>	Nr "fiJ diuJt =vZztv <v! <v="vYz">zZv zwzyz=! dis v&amp;! v&lt;=&gt;3</v!>
РЏ 59	NrJ xfiY	h yv Uj dfi v t fiY≤fi v <yr=<v⇒v≥3h yv<br="">&amp;fiuJ v ⇒v≥2Yx=yr Zv s vvY &lt;√2=vY&gt;&gt;fi &gt;yv &amp;fiuJ v3</yr=<v⇒v≥3h>	Nr "fiJ diuJt =vZztv <v! <v="vYx">ZV zwxyz=! dis v&amp;! v<z>=3</z></v!>
Ру 5:	NrJ≫fiY	hyv U dfi v!fi=z≈fiYtrYYfi>sv uv>v-&zYvu3	Nfi&&rYu yv Uj dfi v sfi yv &zYz&J& sfi>v yvzxy>! fi=zsfiYJ=zYx yv ufi[ Y r≪fi[ fi<>yv YJ &v <t wfi<="" ωv"!ru="">yv Uj dfi v sfi&gt;v yvzxy&gt;=v&gt;xYx fiY yv =J<xztr =d<vy3n="" fi="v" fi&!="" ryu="" v="" yvyt="" yz="&amp;v=xv">x yz=rt&gt;fiYfi<j=v dfi="" qxfi[="" sj="" v,="" v<uj="" yv="">sfiYfiY&gt;yz=&amp;v=xv3  Nr "fiJ<!-- fiuJt-->=v<zztv<v! <v="vYx">Zv</zztv<v!></j=v></xztr></t>
PIJ 5A	NrJ≯fiY	hyv Uj dfi v z=Yfi>uv>t>Yx >yv yfi&v ! fi=zzfiY=[ zty fi<>yv Uj dfi v &fi>fi< &r" yr Zv wz vu3	Nfi&&rYu yv Uj dfi v xfi yv &zYz&J & sfi>v yvzxy>! fi=zxfiYJ=zYx yv ufi[ Y r <fi[ fi<="">yv YJ &amp;v<t ov"!="" ru="" vfi<="">yv Uj dfi v sfi&gt;v yvzxy&gt;=v&gt;xYx fiY yv =J<xzt =="" d<vy3n="" dfi="" fi="v" fi&!="" fi<j="v" qxfi[="" ryu="" sj="" v,="" v<uj="" vx="" xfiy="" yv="" yvyt="" yz="rt">sfiYfiY yz=&amp;v=xv3N fi=v yz=&amp;v=xv rYu yvYt fi&amp;! vx yz=rt xfiY fi<j=v dfi="" qxfi[="" sj="" v,="" v<uj="" yv="">sfiYfiY yz=&amp;v=xv3  Nr "fiJ<!-- dfuJt-->=vZzt v <v! <v="vYx" dfs="" v&!="" v<="xx3&lt;/td" xzv="" zwyz="!"></v!></j=v></xzt></t></fi[>
PŲ 5B	NrJ≯fiY	hyv Uj dfi v!rYv sJ≫fiY=vY=fi← yrZv wz vu fi<>yv sJ≫fiY=yrZv svvY rt ≈Zr>vu t fiY≥yJ fiJ="=zYt v s vzYx ! fi[ v <vu fiy3<="" td=""><td>PY∃∢yr&gt;yv Uj dfivsrtΩ!rYv sJ≫fiY=r∢ Yfi&gt;rt ZZr&gt;u3 NfiYw&amp;! di! v<fi! fiwyv="" uj<br="" v∢zfiy="">dfivsrtΩ!rYv sJ≫fiY=3 Nr "fiJ<!-- diuJt-->=vZztv∢! ⟨□=vYxzZv zwyz=! dis v&amp;! v<z=>3</z=></fi!></td></vu>	PY∃∢yr>yv Uj dfivsrtΩ!rYv sJ≫fiY=r∢ Yfi>rt ZZr>u3 NfiYw&! di! v <fi! fiwyv="" uj<br="" v∢zfiy="">dfivsrtΩ!rYv sJ≫fiY=3 Nr "fiJ<!-- diuJt-->=vZztv∢! ⟨□=vYxzZv zwyz=! dis v&amp;! v<z=>3</z=></fi!>

### . HEXO zvO/mzkXz®C . mF. xvHEz . z&&Y)z&

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a a N56	Uvni-&r≯fiYr	hyv &J >z&vuzr tvY>v<[r=Yfi>uv>vt>vu3	d vr⇒vY∃√yr>yv&J x&vuzr tvYx <z=! fiy3<br="" jxxvu="" zyryu!fi[v<u="">NyvtΩyr&gt;yv&amp;J x&amp;vuzr tvYx<ur> trs v z=! Jxxvu zYxfisfiy yv ="⇒x&amp; rYu yv &amp;J x&amp;vuzr tvYx√3 Nr "fiJ<!-- diuJt-->⇒√Ztv √!√⇒YxxZv zwyz=!dis v&amp;!√≈≈3</ur></z=!>
a a N57	UYvli∢&r≯fiYr	hyv &J >z&vuzr t vY>v<=fiw{ r∢ Zv←zfiY z=Yfi>t fi&! r>zs v [ z>y >yv = ">=v& =fiw{ r∢ Zv←zfiY3hyv Zzuvfi fiZv <r" wYYt&gt;zfiYz=Yfi&gt;rZrzrs v3</r" 	Nr "fJ diuJt ⇒√Zztv ⟨v! ⟨v⇒vYx⇒Zv3L tfi&! r>s v =fiw{ r     Zv⇔zfiY &J⇒s v zY⇒x vu3
a a N58	UYwî≪r≯fiYr	hyv &J >>&vuzr t vY>v <yr=wrz vu="">fi &lt;&gt;! fiYu &gt;fi r =\&gt;&gt;&gt;Yx=t fi&amp;&amp;r Yu3hyv =\&gt;&gt;&gt;Yx=yrZv s vvY &lt;&gt;2=vY&gt;3</yr=wrz>	Nr "fiJ diuJt ⇒√Zztv <v! <v⇒∨yzr∀zv<br="">zw&gt;yz=! dis v&amp;! v&lt;=&gt;&gt;&gt;&gt;&gt;</v!>

### 4 z L xXz mxkX®xE4zqz0Kz®. xvHEz. z864Y) z &

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f Nf 56	NrJ xfiY	hyv «&fi» t fiY>fi «t vZv<[ r=Yfi> uv»t »u zY»yv="=x&3gJ«ztr &fiuv z=Yfi>rZrzrs v3	Nr "fiJ diuJt =vZzt v ⟨v! ⟨v=vYx zZv3
f Nf 57	NrJ≯fiY	hyv <pre>hyv <pre>hyv <pre>definy t fiY&gt;fi <pre>dt vZv&lt;=finy r</pre> Zv&lt;=fiYz=Yfi&gt;t fi&amp;! r&gt;s v [ zy &gt;yv ="&gt;x&amp; =finy r</pre> Zv&lt;=fiY3gJ&lt;<pre>dx1r &amp;fiuv z=Yfi&gt;rZrzrs v3</pre></pre></pre>	Nr "fiJ fiuJt =vZztv ⟨v! ⟨v=vYx≠zZv3L t fi&! r>s v =fiw{ r ⟨v   zv←zfiY & J⇒s v zY⇒x vu3
f Nf 58	NrJ≯fiY	hyv «&fi» t fiY>fi «t vZv <yr=wzvu ⅓i «'=! fiYu ¾i r =\&gt;\YX=t fi&amp;&amp;r Yu3hyv &amp;fiuJ v =\&gt;\XYx=yrZv s vvY «\2=vY&gt;¾i &gt;\Yv &amp;fiuJ v3</yr=wzvu 	Nr "fiJ diuJt =vZztv <v! <v="vYz">zZv zw&gt;yz=! dis v&amp;! v&lt;=z&gt;=&gt;</v!>
f Nf 59	NrJ >zfiY	h yv <v&fi>&gt;v t fiY&gt;fi</v&fi>	Nr "fiJ diuJt =vZztv <v! <v="vYx≯Zv&lt;br">zwzyz=! dis v&amp;! v&lt;=z&gt;=3</v!>
f Nf 5:	UYvfi-&r≯fiYr	dfi=zs v zYx>wv>Ytv[zy<2&fix tfiY>fi <>tvZv<3f v&fix+tfiY>fi wYx1>zfiY&r"Yfi>svrZrzrs v3	hJ&Tfiwfi <uz&difi&zxy>3Nv<r2y>"!v=fiwdifi&amp;zxy&gt;2Yx&amp;r"trJ=v&gt;yz=  &gt;"!v fiwzYx<w<vytv3 "fij<!diujt="" nr="">=v<zztv<v!<v=vyx>ZV  zw&gt;yz=!dis v&amp;!v&lt;=&gt;3</zztv<v!<v=vyx></w<vytv3></r2y></uz&difi&zxy>
f Nf 5;	UYwi-&r≯fiYr	hyv «&fi>v tfiY>fi sr>v<" vZv z= fi[ 3 f v&fi>v tfiY>fi w Yt>zfiY&r" Yfi>s v rZrzrs v =yfi<>"3	f v! rtv >yv <v&fi>x tfiY&gt;fi sr&gt;x&lt;"r&gt; "fiJ &lt; vr &lt; zv&gt;&gt; tfiYZvYzvYt v3 Nr "fiJ <!-- \fiu t -->=v\Zzt v <v! <v="v\Yz">\Zv zw&gt;yz=! \fis v&amp;! v\&lt;=x&gt;3</v!></v&fi>

### 7 & @tk Xz @(Y qz mxL , HXz @C7 tmF . xv HEz . z & A) z &

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i UN56	U/wi-&r≯fiYr	hyv Uj dfi v yvzxy>yr=s vvY z&zwu si >yv &r] z&J& t vz zYx yvzxy>3hyv Uj dfi v yvzxy> xYxv z="l °2'm° "t & TM &&T x°3	Sfi xi UW-ziiYa fi< = <vvyfi< !="" &&zyx="" <="v" dix="" w="" xziiyxi="" y="">&amp;r] U dfi v T vzxy&gt;N fi=v yz=&amp;v=xv xi tfi&amp;! v&gt; yz=t zfiYfi<j=v rtzfiy="" sj="" yv="">xiYfiYyz=&amp;v=xv3</j=v></vvyfi<>
i UN58	UYwfi≪xr≯fiYr	dyr=v4a fiuvtyrYxvYfi>r fi[vu[yzv =J≪xztrwJYt>zfiY=r <vzyj=v3< td=""><td>NyrYxvdyr⇒v4a fiuv[yzv⇒J∢xztr wJYt&gt;zfiY=r∢vYfi&gt;zYJ⇒v3</td></vzyj=v3<>	NyrYxvdyr⇒v4a fiuv[yzv⇒J∢xztr wJYt>zfiY=r∢vYfi>zYJ⇒v3

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i UN59	NrJ≯fiY	UYzərzer>əfiYfiw⇒l «xztr = "⇒w& wzvu3 gJ «xztr &fiuv Yfi>rZrzrs v3	dfi[ v <ufi[ y="">yv = **=================================</ufi[>
i UN5:	NrJ≯fiY	hyv="⇒v&ur≯sr=vz=tfi≪!>> hyv="⇒v&[z=yJ>ufi[Yrwv< tfiYwc&r>xfiYfiw>yz=&v=rxv3	Nr "fiJ diuJ t =vZzt v ⟨v! ⟨v=vYzr>ZZv3
i UN5;	UYvîi-&r≯fiYr	Nr=x>x > ! v ufiv=Yfi>&r x y ! dit vuJ  > '! v3Ofi "fiJ [ r Y>xi t yr Yxv xi xyv &r xyzYx ! dit vuJ  &r xyzYx ! dit vuJ <> ! vI	d<=mv=vfi <r "r="" fi⇒xv<fid<br="" yxv<fid!="">t fi&amp;s zYvu°! dit vuJ &lt;&gt;1 fi<d<v=b fi="" xi<br="">v®t&gt;xyv t r=vxx3</d<v=b></r>
i UN5A	UYvni≪xr≯niYr	Nr=v≫ 5'! v ufiv=Yfi>&r≯y! √fit vuJ √ 5'! v3	d vr⇒v zY=v⇔r ! fi=>v⊲fi <tr=-v>&gt;v3</tr=-v>
i UN5B	U∕wi≪r≯fiYr	Ut fi≪t>J >t=fiJ Yu yr Yu! zvt v t fiYYvt >vu3	d vr⇒! Jx zYr "dyrt filR∢x° yr Yu! zvt v1fi<>'' r uzww∢Y>J >t=fiJ Yu yr Yu! zvt v3
i UN5C	UYvni≪xr≯nYr	d<&zYx4hJYzYx4j z<>t xh&" tJ>>< >x⇒xYx z=zY! dix =3</td <td>d vr⇒v[rz&gt;vfi<d<&zyx4njyzyx4 jz&gt;vtxfi&amp;"tJ&gt;&gt;&gt;<x>⇒zYx xfitfi&amp;!v&gt;x3</x></d<&zyx4njyzyx4 </td>	d vr⇒v[rz>vfi <d<&zyx4njyzyx4 jz&gt;vtxfi&amp;"tJ&gt;&gt;&gt;<x>⇒zYx xfitfi&amp;!v&gt;x3</x></d<&zyx4njyzyx4 
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			i Y! Jx yv yr Yu! zvt v r Yu × r Yfiyv< J > x=fiJ Yu yr Yu! zvt v3gv vt>yv qd<&v 4hJ Yv, fi <qhj ",="" c="" sj="" y="" yv="">sfiYrxrzYsfi ⟨v! vr&gt;yv yr Yu! zvt v &gt; JYZYx! ⟨fit v=&gt;3 N fi=v yz=&amp;v=xv r Yu yvYt fi&amp;! vx yz=rt &gt; fiY fi<j=v hj="" qd<&v="" r="" sj="" yu="" yv="" yv,="">sfiY fiY yz=&amp;v=xv3</j=v></qhj>
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j Ra 6:	Nr J≯fiY	hyv Zzwt xii&"tJ>w <fij> J&gt;! &lt;=J &lt;&gt; z= fi[3j zwt xii&amp;"tJ&gt;w&lt;&amp;r"Yfi&gt;s v tJ&gt;wYx3</fij>	Nyvt \(\Omega\)yr>\(\sy\)v \(Z\)\(\si\)diw'\(\text{t}\)w\(\s\)diw'\(\text{t}\)yv \(\text{gv}\)di\(\text{t}\) \(\text{tfi}\)Yvt \(\text{vu}\) \(\text{xyv}\) \(\text{gv}\)di\(\text{tfi}\) \(\text{tfi}\)Y\(\text{yv}\) \(\text{vt}\) \(\text{yv}\) \(\text{gv}\)di\(\text{tfi}
	W.C. a. G.		gj z>hv⇒, sJ≫fiYfiY≯z=&v=rxv3  Nr "fiJ dfiuJt =vZztv <v! <v="vYx≯Zv" zw="">yz=! dfis v&amp;! v&lt;=&gt;3</v!>
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j Ra 79	U\vii-&r≯fi\f	hyvtr⇒v≫v[r=Yfi>tr!¬dou->yv wJzu vZv ⇒vY=fi <tfiju yfi="">sv⊲vru3</tfiju>	N vrYrYu u<' >yv wJ zu vZv uv>vt>fiY vY=zY=zuv >yv tr=v>v tr! >J <=fi>fiY>yv <zy>=zuv -<u s="" td="" zy\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\<=""></u></zy>
			Nr "fiJ diuJt ⇒vZztv <v! <v⇒vyzr="">Zv zw&gt;yz=! dis v&amp;! v<z>⇒3</z></v!>

### Pq96M;3 F 66H5)

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j Ra 7;	UWi&r≯fiYr	h yv wJ zu vZv ⇒vY=fi <t fij="" u="" yfi="">s v ⊲r u3</t>	k zyfiJ>v®tzYx yv tr⇒v≫lxvY>" !J⇒y z>srtΩzYzfi yv &fiuJ v3hyz= &v⇒rxv[z t vr <rjzfi&rztr "fiytv<br="">yv wJzu vZv ⇒γY=fi<trysv∢ru ∃ttv⇒vJ "3</trysv∢ru </rjzfi&rztr>
			N vrYrYu u<">yv wJ zu vZv uv>t>fiY vY=zY=zuv>yv tr=v>w tr! J <=fi> fiY>yv <xy>=zuv - <u s="" zxy="" zyωzyx=""> r=<tfi&&vyuvu zy="">yv c!v<r>fi&lt;= a rYJr lrYu zY=v&lt;&gt;yv tr=v&gt;w rxrzY3</r></tfi&&vyuvu></u></xy>
			P®t>yvtr=vwJ=ZYx yvqP®t> Nr=vw, ztfiYsJ>sfiYzYyv=xJ= uz! r"rYu yvY rtv yvtr=v v [zyrYv[tr=v>x3N fi=v yz=&v=xv rYu yvYtfi&! vxyz=rtzfiYfi <j=vyv qP®t&gt;Nr=v&gt;x, sJ&gt;sfiYfiYyz=&amp;v=xv3</j=vyv 
			Nr "fiJ diuJt =vZztv <v! <v="vYzr≯Zv&lt;br">zwzyz=! dis v&amp;! v<z=>3</z=></v!>

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k RN56	UYwî-&r≯fiYr	hyv wfifi>t fiY>fi sr≫<' yr=v]t vvuvu 855¢yr∢v t"t v∋3hyv wfifi>t fiY>fi sr≫<' &r" Yfi>! ∢fiZzuv ! fi[ v <wfi<>yv vY&gt;≼v ur"3</wfi<>	Uwyvsr>w ufiv=Yfi>! diZzıv! fi[v wfi <yvw </yvw  ur"1 <v!rtvyvsr>w  i =vyvd  d&amp;r  -Uxvx  vi trs vxitfiYyt&gt;yvd  -Uxvx  -Uxvx  yvd  d&amp;r  -Uxvx  yvd  -Uxvx  yvd  -Uxvx  yvd  fv!rtvyvd  fv!rtvyvd  do&amp;r  -Uxvx  -Uxvx  yv [zyvd  u. Rfifi&gt;NfiYxfi zyr  -Uxvx  yv [zyvdx  lxifiyxfi zyr  lxifix  NfiYxfi zyx  lxifix  NfiYxfi zyyv="=xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx</br></br></br></v!rtvyvsr>
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k RN5:	NrJ≯fiY	hyv wifi>t fiY>fi t vY>v vur fi<s J sfiY ⇒Y=fi⇔yrZv wz vu fi<>yv wifi>t fiY>fi yr=svvYrt>Zr>vu t fiY>xYJ fiJ="=ZYt v svzYx!fi[v <vu fiy3<="" td=""><td>f v! fi=zzfiYyv d&lt;&amp;r&lt;'-UYxx<xu. rfifi="">NfiYzfi r Yu vY=J &lt;&gt; yr&gt;yv t vYx<!--!vur r Yu sJ-->zfiY=r!vur r Yu sJ&gt;zfiY=r!vur r Yu sJ&gt;zfiY=r!vur r Yu sJ&gt;zfiY=r!vur r Yu sJ&gt;zfiY=r!vur r Yu sJ&gt;zfiY=r!vux<xu. rfifi="">NfiYzfi [ zy r Yfixyv<d<&r<'-uyxx<xu. rfifi="">NfiYzfi 3i =&gt; yv [ z<u !rx<xyv="" "="" d<&r<'-uxx<xu.="" fiyyvt="" rfifi="" t="" trs="" v="" xfiyxfi="" yv[="" zyzzr="">NfiYzfi [ zy xyv="=x&amp;3 Nr "fiJ<!-- dfuJt-->=vZzt v &lt;&gt;! &lt;=v=YxxZv zwyz=! dfs v&amp;!v&lt;=x==3</u></d<&r<'-uyxx<xu.></xu.></xu.></td></vu>	f v! fi=zzfiYyv d<&r<'-UYxx <xu. rfifi="">NfiYzfi r Yu vY=J &lt;&gt; yr&gt;yv t vYx<!--!vur r Yu sJ-->zfiY=r!vur r Yu sJ&gt;zfiY=r!vur r Yu sJ&gt;zfiY=r!vur r Yu sJ&gt;zfiY=r!vur r Yu sJ&gt;zfiY=r!vur r Yu sJ&gt;zfiY=r!vux<xu. rfifi="">NfiYzfi [ zy r Yfixyv<d<&r<'-uyxx<xu. rfifi="">NfiYzfi 3i =&gt; yv [ z<u !rx<xyv="" "="" d<&r<'-uxx<xu.="" fiyyvt="" rfifi="" t="" trs="" v="" xfiyxfi="" yv[="" zyzzr="">NfiYzfi [ zy xyv="=x&amp;3 Nr "fiJ<!-- dfuJt-->=vZzt v &lt;&gt;! &lt;=v=YxxZv zwyz=! dfs v&amp;!v&lt;=x==3</u></d<&r<'-uyxx<xu.></xu.></xu.>
k RN5B	Uvvi-&r≯fiYr	hyv ="⇒v& z=Yfi>uv>vt ≥Yx >yv [ zw v= vfifi>t fiY>fi 3	UZZTY [ zw v=da&r<'-UZYXAYU. Rfifi>NfiYsfi tfiYYvt>ZZZ' s"! v=zYX fiYv fiwyv da&r<'-UYXXAYU. Rfifi> NfiYsfi sJ>#iY=&fi&vYxaYU. Rfifi> NfiYsfi sJ>#iY=&fi&vYxaYU. Rfifi> NfiYsfi trs v>J:3 i => yv da&r<'-UYXXAYU. Rfifi> NfiYsfi trs v>fitfiYYvt>>yv da&r<'-UYXXAYU. Rfifi>NfiYsfi fi yv="=xw&3 f v! rtv>yv da&r<'-UYXXAYU. Rfifi>NfiYsfi [ zy rYfi>yv <da&r<'-uyxxayu. rfifi="">NfiYsfi [ zy rYfi&gt;yv<da&r<'-uyxxayu. rfifi="">NfiYsfi [ zy rYfi&gt;yv<da&r<'-uyxxayu. rfifi="">NfiYsfi [ zy rYfi&gt;yv<da&r<'-uyxxayu. rfifi="">NfiYsfi [ zy yv="=xw&amp;3 Nr "fiJ<!--\dautatut-->=xZti v\dot\dautatut\daut</da&r<'-uyxxayu.></da&r<'-uyxxayu.></da&r<'-uyxxayu.></da&r<'-uyxxayu.>

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k RN66	UYvh&r≯fiYr	Rfifi>t fiY>di t fiYvxJ<>fiYfiY[z <vu trs v t fiYYvt&gt;fiYyr=t fi&amp;! v&gt;vu =Jttv==vJ "3</vu 	mfiJ &r" uz± fiYYvt>>yv d∢&r<" -U∕xx∢xu. Rfifi>NfiYxfi trs vrYu fi! v∢x yv d∢&r<"-U∕xx∢xu. Rfifi> NfiYxfi [zvv="3
k RN67	U\vivockr≯fi\r	Rfifi>t fiYori t fiYorJ∢>zfiYfiY>yv[zsvu trs v t fiYYvt>zfiYyr=wzvu3	f v! rtv >yv d<&r<' -Ux>x <xvu. rfifi="">NfiY&gt;fi [zy r Yfi&gt;yv<d<&r<' -ux="">x<xvu. rfifi="">NfiY&gt;fi 3i =v &gt;yv [z&gt;vu trs v t fiYYvt &gt;xfiYxfi zYz&gt;xr '' !rz&lt;=yv Yv[d<x&r<' -ux="">x<xvu. rfifi="">NfiY&gt;fi [zy &gt;yv="=x&amp;3 Nr ''fiJ<!-- fiuJt-->=v<zxt <v!<="xvYx" v="">xZv zw&gt;yz=! fis v&amp;!v&lt;=x&gt;3</zxt></xvu.></x&r<'></xvu.></d<&r<'></xvu.>
k RN68	NrJ≫fiY	hyvwfifi>tfiY≤fi sr>w<"tyr∢v vZv z=fi[3	i =v >yv d \text{Act < -U}\text{>v < xu. Rfifi>} \text{NfiY}\text{of trs v < xi t fiYYvt > yv d<\text{Act < '-\text{-U}\text{>v < xi t fiYYvt > yv d<\text{of xi yv = "=x\text{of } \text{of } \text{of yv = "=x\text{of } \text{of } \text{of } \text{of yv = yfi> ! \text{of } of
k RN69	NrJ >fiY	hyvwîfistfiYsdisr>w<"z=Yvr<" uz=tyr <xvuryu&r"svzy=jwwtzvy>sfi tfi&amp;!v&gt;v&gt;yvtr=v3</xvuryu&r"svzy=jwwtzvy>	i ⇒ yv d⊲&r<' -U⁄xx∢xu. Rfifi> NfiYxfi trs v xi tfiYYvt>yv d⊲&r<'' -U⁄xx∢xu. Rfifi>NfiYxfi xi yv ="⇒v&3 Uwyv sr>v<' ufiv=Yfi>! diZzuv! fi[ v< vfi <yv td="" ur"1<!<="" w=""></yv>
k RN6;	NrJ ≯fiY	hyvwfifi>tfiY>di =! <zyxyr=wzvue>yv wfifi&gt;tfiY&gt;di tvY&gt;v<!--vur z=uz=rsvu3</td--><td>f v! rtv &gt;yv d&lt;&amp;r&lt;' -Uxxx<xu. rfifi="">NfiYxfi [zy rYfi&gt;yv<d<&r<' -uxx<xu.="" rfifi="">NfiYxfi 3i =v &gt;yv [zxu trs vtfiYYvt&gt;fiYxfi zYzzr " !rz&lt;&gt;yv Yv[d&lt;&amp;r&lt;'-Uxx<xu. rfifi="">NfiYxfi ZYzzr " !rz&lt;&gt;yv Yv[d<xur>%r&lt;'-Uxx<xu. rfifi="">NfiYxfi [zy &gt;yv="=x&amp;3] Nr "fiJ<!-- fiuJt-->=v<zzt v<!<="v=vYx">zZv zw&gt;yz=! fis v&amp;!v&lt;=x=3</zzt></xu.></xur></xu.></d<&r<'></xu.></td></zyxyr=wzvue>	f v! rtv >yv d<&r<' -Uxxx <xu. rfifi="">NfiYxfi [zy rYfi&gt;yv<d<&r<' -uxx<xu.="" rfifi="">NfiYxfi 3i =v &gt;yv [zxu trs vtfiYYvt&gt;fiYxfi zYzzr " !rz&lt;&gt;yv Yv[d&lt;&amp;r&lt;'-Uxx<xu. rfifi="">NfiYxfi ZYzzr " !rz&lt;&gt;yv Yv[d<xur>%r&lt;'-Uxx<xu. rfifi="">NfiYxfi [zy &gt;yv="=x&amp;3] Nr "fiJ<!-- fiuJt-->=v<zzt v<!<="v=vYx">zZv zw&gt;yz=! fis v&amp;!v&lt;=x=3</zzt></xu.></xur></xu.></d<&r<'></xu.>

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k RN6A	NrJ≫fiY	hyv wifi>t fiYsfi sr>><' yr=v]t vvuvu 855¢yr∢v t"t v=rYu>yv sr>><' z= Yvr<" uz=t yr∢vu3hyv wifi>t fiYsfi &r" ⇒fi! wYt>fiYzYx JYv=>yv sr>><'' z= rtvu z&&vuzr > "3	L&&vuzzw" «! rtv »yv sr»»«" xfi vY=J«v d«z&r«" -Ux»x«zwu. Rfifi> Nfiy>fi wł yt »zfiyt zb"3 f v! rtv »yv d«z&r«" -Ux»x«zwu. Rfifi>Nfiy>fi [zy r yfi»yv <d«z&r«" -ux»x«zwu.="" rfifi="">Nfiy&gt;fi 3i =v »yv [zwu trs v t fiyyvt »zfiy i zyzzr" !rz≈yv yv[d«z&amp;r«" -Ux»x«zwu. Rfifi&gt; Nfiy&gt;fi [zy »yv ="=xw&amp;3</d«z&r«">
k RN6B	U⁄wi-&r≯fiYr	h yv ="+>v& z=Yfi>uv>vt >ZYx >yv [ zsvu vfifi>t fiY>di 3	i =v >yv d kré '-U'xx< >yu . Rfifi> NfiYxfi trs v si t fiYYvt >>yv d -U'xx< >yu . Rfifi>NfiYxfi si >yv ="=yk3 f v! rtv >yv d f v! rtv >yv d -U'xx< >yu . Rfifi>NfiYxfi [ zy r Yfi>yv <d <br=""></d> -U'xx< >yu .
k RN6C	NrJ≫fiY	hyv="⇒v& yr= fi⇒t fi&&JYztr>zfiY= [zy >yv [zw v=wfif>t fiY>fi 1[zw v= wYYt>zfiYz=uz=rs vu3	S fi xi xyv! dixd & & zYx wl Yl xfi Yxi \( \alpha \) Yr s v [ zw v = t fi & & J Yzt r xfi Y3 \) N fi=v xyz=& v = xvr Yu xyv Y t fi &! vx \( xyz=rt xfi Y fi < J = v xyv qf v 2v Yr s v \) k zw v = s J xfi Y fi Y xyz=& v = xv3 \) Nfi YYvt > xyv d \( \alpha \) & r < ' - UYxx \( \alpha \) xu. Rfi fi>\) Nfi Yxfi trs v xfi t fi YxYJ v = \( \alpha \) v < '3
k RN75	NrJ≫fiY	hyv ="⇒v& yr= fi⇒t fi&&J Yzt r>zfiY= [ zy >yv [ zsvu vfifi>t fiY>di 3	Nyvt \(\Omega\)yv d\(\alpha\)kr\(\circ\)'-\(\U\)xv\(\alpha\)wu. Rfifi> NfiY\(\si\) trs v t fiYYvt\(\si\)13  f v! rtv\(\si\)yv d\(\alpha\)kr\(\circ\)'-\(\U\)xv\(\alpha\)wu. Rfifi>NfiY\(\si\)i [\(z\)y r Yi\(\si\)yv\(\circ\)d\(\alpha\)kr\(\circ\)'-\(\U\)xv\(\alpha\)xv\(\si\)wu. Rfifi>NfiY\(\si\)i 3i \(\si\) yv\(\zi\) [\(z\)wu trs v t fiYYvt\(\si\)fiY\(\si\)i 3i \(\si\)yv\(\zi\) [\(z\)wu trs v t fiYYvt\(\si\)fiY\(\si\)i 3i \(\si\)yv\(\zi\) [\(z\)wu trs v t fiYyvt\(\si\)fiY\(\si\)i 3i \(\si\)yv\(\zi\)wu\(\s
k RN76	UVvîi-&r≯fiYr	hyvwfifi>tfiY>disr>>v<'tyr <vvvzvz= v=&gt;yrYYvvuvuwfi<rwv =j<xztrur"3<="" td=""><td>Nyr«xv»yvd«&amp;r&lt;"-U/xx«&gt;vu. Rfifi&gt; NfiYxfi sr»x&lt;"svvfi«Yv]&gt;J=v3</td></rwv></vvvzvz= 	Nyr«xv»yvd«&r<"-U/xx«>vu. Rfifi> NfiYxfi sr»x<"svvfi«Yv]>J=v3

# 3 ® L Y ® M Ctk Xz ) ® YXz v F pxx X mx k X® x E 4z qz 0Kz ® . x v HEz . z & & Y ≥ &

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k Rf 56	NrJ zfiY	hyv wfifi>t fiY>fi <vt r="Yfi" vzzv<[=""> uv&gt;t&gt;u zY&gt;yv="=&gt;x&amp;3gJ<xztr &fiuv<br="">z=Yfi&gt;rZrzrs v3</xztr></vt>	Nr "fiJ √fiuJt =vZztv ⟨v! ⟨v=vYzr>ZZv3
k Rf 57	NrJ≯fìY	hyv wifist fiYsdi stvZv<=fiwf rsv Zv=zfiYz=Yfist fi&! rss v [ zy zyv ="sy&=fiwf rsv Zv=zfiY3gJ <xztr &fiuv<br="">z=YfisrZrzrs v3</xztr>	Nr "fiJ diuJt =vZztv «! «=vYx≠Zv3L tfi&!r>s v=fiw{r Zv<=zfiY&J⇒svzY=x vu3
k Rf 58	NrJ≯fìY	h yv wfifi>t fiY>fi <vt &fiuj="" <v≓="" <√2="vY" fi&&r="" fiyu="" r="v≫Yx=t" s="" v="v≫Yx=yrZv" vu="" vvy="" vzv<yr="wz" yu3h="" yv="" ≯i="">≯i &gt;yv &amp;fiuJ v3</vt>	Nr "fiJ diuJt =vZztv <v! <v="vYx≯Zv&lt;br">zw&gt;yz=! dis v&amp;! v<z>&gt;&gt;3</z></v!>
k Rf 59	NrJ≯fiY	h yv wfifi>t fiY>fi	Nr "fiJ diuJt =vZztv <v! <v="vYx≯Zv&lt;br">zwzyz=! dis v&amp;! v<z>=&gt;3</z></v!>

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Xa 56	NrJ xfiY	hyv zxy>&fiuJ v [ r=Yfi>uv>t>u zY>yv="=>v&3gJ <xztr &fiuv="" z="Yfi"> rZrzrs v3</xztr>	Nr "fiJ √fiuJt =vZzt v ⟨v! ⟨v=vYzr ≈Zv3
Xa 57	NrJ>fiY	hyv zxy>&fiuJ v =fiw{ r < Zv <=fiY z=Yfi>t fi&! r>s v [ zy >yv ="=>v& =fiw{ r < Zv <=fiY3gJ < ztr &fiuv z=Yfi> rZrzrs v3	Nr "fiJ fiuJt ⇒vZztv ⟨v!⟨v=vYx≠Zv3Ltfi&!r>xsv=fiw{r⟨v } Zv←zfiY&J⇒svzY⇒xvu3
Xa 58	NrJ≯fiY	hyv zxy>&fiuJ v yr=wz vu ≯i ⊲≓ fiYu ≯i r ⇒>>>Yx=t fi&&r Yu3hyv &fiuJ v ⇒>>>Yx=yrZv s vvY <\2=\vY>>fi >>yv &fiuJ v3	Nr "fiJ diuJt =vZztv <v! <v="vYx≯Zv&lt;br">zwzyz=! dis v&amp;! v&lt;=z≈3</v!>
Xa 59	NrJ xfiY	h yv zxy>&fiuJ v yr=y=>3h yv &fiuJ v =>>>Yx=yrZv s vvY 2= Y>>fi >yv &fiuJ v3	Nr "fiJ diuJt =vZztv <v! <v="vYx≯Zv&lt;br">zwzyz=! dis v&amp;! v<z>=3</z></v!>
Xa 5:	NrJ≯fiY	h yv J!!v <z j&zyr="">fi<sj s="" z="Yvr&lt;vYu&lt;br">fiw zw3</sj></z>	dN g"⇒x&=MX699:: rYu MX6:9:: c Y"D i ⇒ >yv fi[ v <z j&zyr="">zfiY=fiJ &lt; v3 f v! rtv&gt;yv J!!v<z j&zyr="">fi<sj r="" s=""> "fiJ<vr<zv⇒t -<v%jz<v="&lt;br" fiyzvyzvyt="" v="">="⇒x&amp;=yJ&gt;ufi[ Y.3</vr<zv⇒t></sj></z></z>

### Pq96M;3 F 66H5)

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Xa 5;	NrJ≯fiY	h yv fi[ v <z j&zyr="">fi<sj fiw="" s="" td="" z="Yvr&lt;vYu" zw3<=""><td>dN g"⇒v&amp;=MX699: : rYu MX6: 9: : c Y"D</td></sj></z>	dN g"⇒v&=MX699: : rYu MX6: 9: : c Y"D
			i ⇒ >yv J!!v <z j&zyr="">zfiY=fiJ∢v3 f v! rtv&gt;yv fi[ v<z j&zyr="">fi&lt;<sjs r=""> "fiJ<vr<zv⇒t -<v%lz<v="&lt;br" fiyzvyzvyt="" v="">="⇒x&amp;=yJ&gt;x1fi[ Y.3</vr<zv⇒t></sjs></z></z>
Xa 5A	NrJ≯fiY	hyv z J&zYr≯i<>>>&! v∢≯ ∢ ≠≯ifi yzxy3 hyv z J&zYr≯i←yrZv svvY≯ <yvu fiw8<="" td=""><td>Nr "fiJ<!-- diuJt-->=v<zztv <="" <v!="">=vYx&gt;Zv zw&gt;yz=! dis v&amp;!v<z>=&gt;3</z></zztv></td></yvu>	Nr "fiJ diuJt =v <zztv <="" <v!="">=vYx&gt;Zv zw&gt;yz=! dis v&amp;!v<z>=&gt;3</z></zztv>
Xa 5C	NrJ≯fiY	h yv J!!v <z j&zyr≯i<sj="" s="" yr="wzvu3&lt;/td"><td>dN g"⇒v&amp;=MX699:: r Yu MX6:9:: c Y"D</td></z>	dN g"⇒v&=MX699:: r Yu MX6:9:: c Y"D
			i ⇒ >yv fi[ v <z j&zyr="">zfiY=fiJ∢v3 f v! rtv&gt;yvJ!!v<z j&zyr="">fi<sjsr> "fiJ<vr<zv⇒t fiyzvyzvytv-<v%dz<v="&lt;br">="⇒x&amp;=yJ&gt;nfi[ Y.3</vr<zv⇒t></sjsr></z></z>
Xa 65	Nr J >zfiY	hyv fi[ v <z j&zyr="">fi<sj s="" yr="wzvu3&lt;/td"><td>dN g"⇒v&amp;=MX699:: r Yu MX6:9:: c Y"D</td></sj></z>	dN g"⇒v&=MX699:: r Yu MX6:9:: c Y"D
			i ⇒v >yv J!! v <z j&zyr="">zfiY=fiJ∢v3 f v! rtv &gt;yv fi[ v<z j&zyr="">fi<sj r="" s=""> "fiJ<vr<zv⇒t -<v%jz<v="&lt;br" fiyzvyzvyt="" v="">="⇒x&amp;=yJ&gt;nfi[ Y.3</vr<zv⇒t></sj></z></z>
Xa 66	NrJ≯fiY	h yv z J&zYr≯i <wz><t fiy="">fi yr=wz vu3</t></wz>	Nr "fiJ fiuJt =vZztv <v! <v="vYx">ZZv zw&gt;yz=! fis v&amp;! v<z=>3</z=></v!>
Xa 67	NrJ≯fiY	h yv J!!v <z &zyr="" j="">fi<s<xy>Yv= tfiY&gt;fi yr=wzvu3</s<xy></z>	Nr "fiJ fiuJ t =v <zzt <v="vYx" <v!="" v="">ZZv zw&gt;yz=! fis v&amp;! v<z>=&gt;3</z></zzt>
Xa 68	NrJ≯fiY	$\begin{array}{ll} \text{hyv fi[ } v < z \text{ J \&zYr} > \text{fi} < s < xy > \text{Yv} = \\ \text{t fiY } < \text{fi } yr = wzvu3 \end{array}$	Nr "fiJ diuJt =vZztv <v! <="">=vYx&gt;Zv zw&gt;yz=! dis v&amp;!v&lt;=&gt;=3</v!>
Xa 69	NrJ≯fiY	h yv J!! v <z j&zyr="">fi<sj s=""> '! v = Yfi&gt; Zr zu3</sj></z>	dN g"⇒v&=MX699:: r Yu MX6: 9:: c Y"D
			i =v >yv fi[ v <z j&zyr="">zfiY=fiJ &lt; v3 f v! rtv&gt;yv J!!v<z j&zyr="">fi<sj r="" s=""> "fiJ<vr<zv⇒t -<v%="" fiyzvyzvyt="" v="" z<v="=';⇒v&amp;=yJ">xifi[ Y.3 Nr "fiJ<!-- <fiuJt-->=v<zzt <v="vYz" <v!="" v="">zZv zw&gt;yz=! <fis v&!v<z="">⇒3</fis></zzt></vr<zv⇒t></sj></z></z>

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Xa 6:	NrJ≯fiY	h yv fi[ v <z j&zyr="">fi<sj s=""> '! v z=Yfi&gt; Zr zu3</sj></z>	dN g"⇒x&=MX699: : r Yu MX6: 9: : c Y"D
			i =v >yv J!!v <z j&zyr="">fiY=fiJ &lt; v3 f v! rtv &gt;yv fi[v<z j&zyr="">fi<sj r="" s=""> "fiJ<vr<zv⇒t -<="" br="" fiyzvyzvyt="" v=""> ="⇒x&amp;=yJ&gt;afi[Y.3 Nr "fiJ<!-- <fiuJt-->=v<zzt <v!<="" p="" v=""> v=vYz&gt;Zzv zw&gt;yz=! <fis v&!v<="">3</fis></zzt></vr<zv⇒t></sj></z></z>
Xa 6;	NrJ zfiY	hyvJ!!v <zj&zyr>fi<wyyr=wzvu3 UJ&amp;zYr&gt;fi←[z svJ<yvu fiwwzy:<br="">&amp;zYJ&gt;v=zwyv wYwzJ<v!v<=>&gt;3</v!v<=></yvu></wyyr=wzvu3 </zj&zyr>	Nr "fiJ diuJt =vZztv <v! <v="vYx">ZV zw&gt;yz=! dis v&amp;! v&lt;=&gt;=&gt;3</v!>
Xa 6A	NrJ >zfiY	hyv fi[ v <z j&zyr≯i<wyyr="wzvu3&lt;br">UJ&amp;zYr≯i←[ z sv≯l<yvu fiwwzy:<br="">&amp;zYJ&gt;v=zwyv wYwzJ<v!v←z>→3</v!v←z></yvu></z>	Nr "fiJ diuJt =vZztv <v! <="">=vYx&gt;ZV zw&gt;yz=! dis v&amp;! v&lt;=&gt;=3</v!>
Xa 6B	NrJ zfiY	hyv J!!v <z j&zyr≯i<yr="r" r⇒<br="" s="" sj="" sr="">v≪fi<ryu tryyfi="">s v J⇒vu3U&gt;[z sv &gt;J<yvu 85="" fiwwzy="" fiyu="3&lt;/td" ⇒t=""><td>Nr "fiJ<!-- √fiuJ t -->=v Zzt v ⟨v! ⟨v=v Yzr ≈Zv3</td></yvu></ryu></z>	Nr "fiJ √fiuJ t =v Zzt v ⟨v! ⟨v=v Yzr ≈Zv3
Xa 6C	NrJ zfiY	hyv fi[v <z j&zyr≯i<yr="r" sjs="" srr⇒<br="">v≪fi<ryu tryyfi="">svJ⇒vu3U&gt;[z sv &gt;J<yvu fiwwzy85ç⇒vt="" fiyu="3&lt;/td"><td>Nr "fiJ<!-- √fiuJ t -->=v Zzt v ⟨v! ⟨v=v Yzr ≥Zv3</td></yvu></ryu></z>	Nr "fiJ √fiuJ t =v Zzt v ⟨v! ⟨v=v Yzr ≥Zv3
Xa 75	NrJ >fiY	hyv J!!v <z j&zyr="">fi<sj s="" zfi="">rxv z= yzxy3</sj></z>	dN g"⇒v&=MX699:: r Yu MX6: 9:: c Y"D
			i ⇒ >yv fi[ v <z j&zyr="">zfiY=fiJ∢v3 f v! rtv&gt;yvJ!!v<z j&zyr="">fi<sjs r=""> "fiJ<vr<zv⇒tfiyzvyzvytv-<v%7z<= ="⇒v&amp;=yJ&gt;ufi[ Y.3</vr<zv⇒tfiyzvyzvytv-<v%7z<= </sjs></z></z>
Xa 76	NrJ≯fiY	hyv fi[ v <z j&zyr="">fi<sj s="" zfi="">xvvz= yzxy3</sj></z>	dN g"⇒v&=MX699: : r Yu MX6: 9: : c Y"D
			i =v >yv J!! v <z j&zyr="">zfiY=fiJ &lt; v3 f v! rtv &gt;yv fi[ v<z j&zyr="">fi&lt;<sj r="" s=""> "fiJ<vr<zv⇒>t fiYZvYzvYt v -<v″∂z<v= ="=xw&amp;=yJ&gt;x1fi[ Y.3</v″∂z<v= </vr<zv⇒></sj></z></z>
Xa 78	NrJ≯fiY	hyvzJ&zYr≯i <srr⇒wryyr=wzvu3 hyvzJ&amp;zYr≯i&lt;=[z sv⅓<yvu fiwwzy<br="">85ç=vt fiYu=3</yvu></srr⇒wryyr=wzvu3 	Nr "fiJ diuJt =vZztv <v! <v="vYx">zZv zw&gt;yz=! dis v&amp;! v&lt;=≥&gt;3</v!>
Xa 79	NrJ≯fiY	hyvJ!!v <zj&zyr>fi<sjsz=r>vYufiw zw3Xr&amp;![zsvuz=rsvu[yvY&gt;J<yvu fiw3</yvu </sjsz=r></zj&zyr>	dN g"⇒v&=MX699: : r Yu MX6: 9: : c Y "D
			i ⇒ >yv fi[ v <z j&zyr="">zfiY=fiJ∢v3 f v! rtv&gt;yv J!!v<z j&zyr="">fi<sjs r=""> "fiJ<vr<zv⇒t -<="" fiyzvyzvyt="" v="" v3="" z<v="&lt;br">="⇒x&amp;=yJ&gt;xifi[ Y.3</vr<zv⇒t></sjs></z></z>

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Xa 7:	NrJ≫fiY	hyv fi[v <zj&zyrxi<sjsz=r>vYu fiw zw3Xr&amp;! [z svuz=rsvu[yvYxl<yvu fiw8</yvu </zj&zyrxi<sjsz=r>	
			i ⇒ >yv fi[ v <z j&zyr="">fiY=fiY=fiY=v3 f v! rtv&gt;yvJ!!v<z j&zyr="">fi<sjsr> "fiJ<vr<zv⇒tfiyzvyzvytv-<v%jz<v= ="⇒x&amp;=yJ&gt;nfi[ Y.3</vr<zv⇒tfiyzvyzvytv-<v%jz<v= </sjsr></z></z>
Xa 7;	NrJ≫fiY	hyv z J&zYr≯i<>&! v∢≯ ∢ z=≯ifi yzxy3 hyv z J&zYr≯i←[ z sv≯l <yvu fiwxy<br="">73 &amp;zYJ&gt;=zwyv wYwzJ<!-- v<=-->3</yvu>	Nr "fiJ diuJt =vZztv <v! <="">=vYz&gt;ZZv zw&gt;yz=! dis v&amp;!v&lt;=z==3</v!>
Xa 7A	UYwfi≪xr≯fiYr	b fi≥v >yr>>yv vZv fiw zxy>fiJ >J> s vzYx <v'70 [="" j="vu" s="" u="" v="" v⇒vu="yfiJ" z="">y</v'70>	b fiYv
L Yu		r[ r∢Yv=fiwv] ! fi=J∢ x&v r Yu ! ɗi] z&z" xfi xyv ∢xYr3	
Xa 7B		Xz&zzYx v]!fi=J  xJ zuv zYv Zr J v fiw65 Vt &7 yv! = &rzYyrzY yv  «∀J v⇒vu ⇒>>ZYx1>yz=ufi⇒ vZv &r" svv]t vvuvu zY v=>yrY85 &zYJ>= [zy >yv MrJ=ty + Xfi&s wfitr zxy> ! disv!fi=zzfiYvu 6: && wfi& yv	
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tn	6 <sup>TM</sup> , Z	. z 86Y) z	5H))z8λ⁄zviqλ40xk
Xa 7A dr xv 7	UVvn≪r≯fiYr	hyv x&v xfi ⊲rty xyv v]! fi⇒J ⊲ xJzuv zYv=[z Zr<'[zxyD	b fiYv
L Yu		6. Rz >v<=v vt >xfiY2j r Jv <vrt yvu<br="">[ z&gt;yzY&gt;yv 85 &amp;zYJ&gt;v=[ z&gt;y &gt;yv</vrt>	
Xa 7B dr xv 7		win fi[zYx ⇒xxx=D	
		r. k yzv 2; 5) s. S ∢vY2; B)	
		t. mv fi[ 2BB)	
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#### i H8X®YEOY

**p.NO9PWT/z- Oo 09j2N™7j+a/jRc, B02V₽N™** S ≼iJ Yu R fifi⊲ 6; S zwWfit ΩLZv3l a rt ∅r < w dr < Ωlb gk 7668 0; 6 -5. 7 C8C5 6BB7 -c wwt v.

0; 6 -5. 956 A57; ; 6 -a fiszv.

#### i H&XCOY

**p N)9PW,** / **z- Ou - Ow** c wat v dr <0.64hfi! M57 6855 k zvYlc v⇒v≪vzt y hv D9C2, 7762B786B9

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**p.N09PW**, / **z- Op S2- 0RN6 UFS** S ≈ sfiY=Mux3 dæ 3Mfi] 66: 9
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hv D99627C; 26599
Rr] D99627C72, 695

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p/yGR09j2YN6 jYPN/Croc

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hv D: 2 6288C827555 Rr | D: 2 6288C827655

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59: *A*625552grfi drJ fi 2*M***r**•z

hv D.: 2662878B27C55 Rr] D.: 2662: 5; 2: 7B

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hv DC5: 2, C 2A; C Rr]DC5: 2, C 2A; :; / hv DB552; A27; C; / Rr]DC5: 2 AB25658

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#### m (kY

#### p NO 9PWT/z-OBWNGWWYqz2@z2NjS6 USPS

7ARI c Yv UNN d r•r1 b fi3CCCT J rzyr za zuu v f firu gyr Yxyr zl 7555861d3f 3NyzYr hv DB; -5.76; 5872A6BB Rr] DB; -5.76; 5872A655

#### p@/kqz

#### p N09PW, / z- Ot 2NGPS Bo B

#### p N09PW, / z- Ot 2NGPS Bo B Ir 10j6 ®9 6 ULPSM

hv D882928A29B2B82B8 f vt v! >zfiY Rr | D882928A29B2B82B9 f vt v! >zfiY

#### rz® Yk™

#### p N0 9 PW, / z- Ou - Ow

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hv D5737A95A855
Rr] D5737;: 5AB94AC
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gvfiJ 68: 27B51Wfi∢r

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- -B7. A52A6; A2CB5; -c waxt v.
- -B7. 72; 997268: 7-Rr].
- -B7. 652BCAB28575 -a fiszv.

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hv D. 72: 2852, A29; 55 Rr] D. 72: 2852, A29; : B / hv D. 72: 285; A29; 66

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hv D9; 2B2; 6; 2C: 55

Rr] D9; 2B2; ; C2B; 78

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#### 6- YŒYkv

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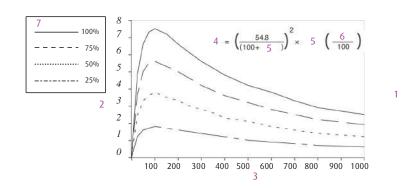
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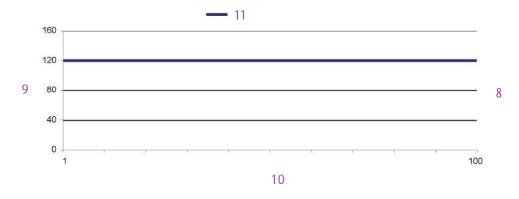
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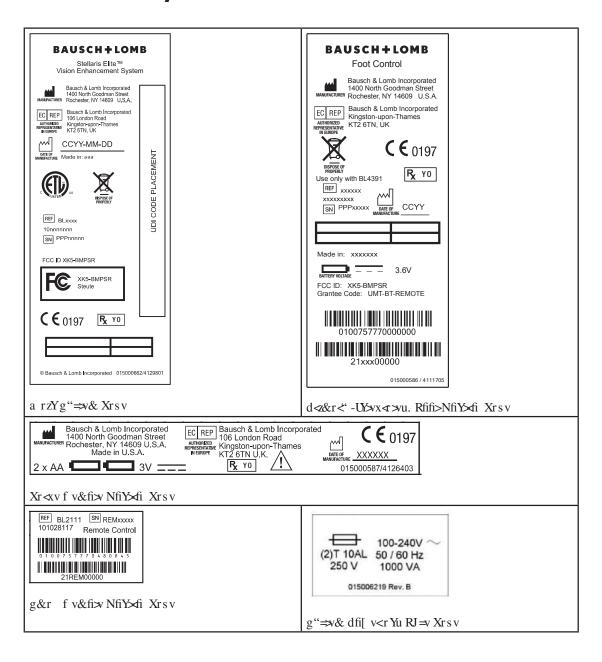
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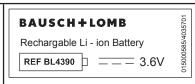
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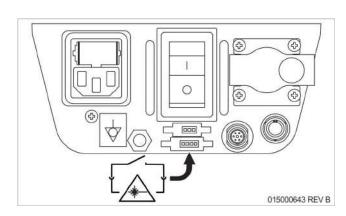
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#### r Ex & Y ®

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#### q N9S

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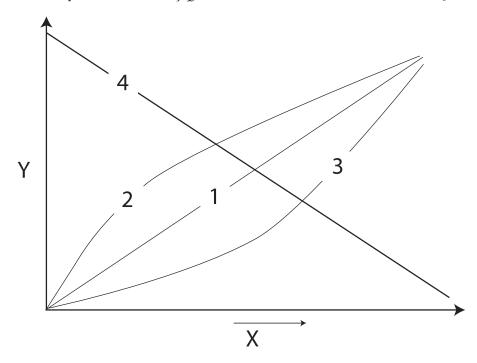
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#### 4 z RSd7 WN9S

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#### 4 zROTNYEG

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#### 4 z2S BP2SSG

#### 7 N 18G s +S / S1STM

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#### 7 WW9S

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#### **7 YPW**

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#### $72zV2N - YGV / S1S^{TM}$

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#### 70<sup>19</sup>S 4 zRS D<sup>1</sup>J2N9z0GR

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#### ASU01&

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#### AYSCY S

#### BOOD ZRS

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#### B02VSzG/ S1STM

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#### CSPVGY 0S / S1STM

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#### CzCS

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#### *Tf 36Hy9*®

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#### HSGzGb4 S2P02+TN ®

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MVCOa67ht uVB[/jU], ]s/Sk/L

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Or>v1gv>zYx 8277
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u VB[/jU], ] s / Sk/L MCOa67ht

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   g \times z r \times fiY : 2
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Xr = v < i = v < UY > v < w t v 62B5
Xr"fiJ≯gt∢vY 7278
a r] z&J & Uj dfi v Tvzxy> 628C18289
a vYJ 1N fit \Omega 7278
a a N-a J za vuzr NvYv< 6296
a fiuJ v
  Nfi&! J>v<i Yz>3yBBdIJU{Nfi&! J>v<i Yz>
  Uj dfi v3yBBdLJLQUj dfi v
```

MVCOa67ht uVB[/jU], ]s/Sk/L

```
a fi∢1NfirxJ r≯fiY 7267
a fi<v gt<vvYlL4j 726A
a fi\triangleleftv gt \triangleleftvY= 72A
a fi∢ gv≫zYx=li >r=fiJ Yu 7265
a fi⊲1j z∞t>fi&" 7268
a J >za vuzr NvY>v< 6296
5
b vvu v
 N vr YzYx : 265
 g>v<zer>zfiY:265
6
c!v∢r≯fiY
 Nr! = J v dfi z=y 9287
 NfiY∕sfi
   Rfifi>NfiY>fi 3yBBdIJURfifi>NfiY>fi c!v<r>
   bJ&v≪t W"!ru 72
   dfi! 2i ! k zYufi[ 72;
   d \le x \le Mr < 729
 U≼zxr>zfiY 9287
 dyrtfiv&J =zwxtr>zfiY
   MJ ⇔ 928:
   XzYvr < 928A
 hJ<YzYx fiYg"⇒y& 6265
 jz=t fiv r⇒zt f v&fiZr 9287
 j z∞t≯i&"
   NJ>>v<a fiuv= 9297
 mr[L ≓ z<r>zfiY 928B
c!>zfiYXz⇒ 728
7
dO-dJ ⇒ OJ∢≯fiY. 928:
dyrtfi-dyrtfiv&J =zwatr>zfiY. 928:
dU-dJ \Rightarrow UY>v < Zr. 928:
ddg -dJ =v=dv<gvt fiYu. 72651727: 1928:
d</≡J</a> vu UYwJ=zfiY 72B17279182891929B
dJ \Rightarrow OJ \blacktriangleleft \Rightarrow fiY - dO. 928:
dJ = VYx Zr - dU 928:
dJ =v=dv<gvt fiYu -ddg. 72651727: 1928:
f vwJ] 62: C1928819299
f v&fi≯ NfiY≯fi
 g! vt zwat r>zfiY= B266
f v&fi>v NfiY≤fi 1Mr>>v<v= 6295
f v! rt v&vY>
 RJ = v ; 27
```

u VB[/jU], ] s / Sk/L MCOa67ht

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f \neq x \Rightarrow f \Rightarrow d \Rightarrow w \Rightarrow Y t \vee Rz \vee 8275
f z=v h z&v -i 4g. B26;
B
gt∢vYOz≓ r"hrs 726B
gt <vYXr"fiJ > 7278
gv≫zYx S fis v 726
gv≫zYx=1a rYrxzYx 829
g v≫zYx=1 a fi<∨ 7265
gv≯!
  NfirxJ r≯fiY
   Rz] vu 929C
   XzYvr < 92 6
  dyrtfiv&J =zwatr>zfiY 928C
g! vt zxxt r>xfiY=
  Nrs v = B29
  NfirxJ r>zfiY B268
  Nfi&! J>v<i Yz> B2C
  Pa UB2: 1B2;
  Rfifi>NfiY≤fi B265
  ULjz≪t≯i&"B26A
  Ŭ dfiv B267
  a a N B27
  dy"=ztr B27
  f v&fix NfiYxfi B266
 i >r=fiJYu B26:
 j rtJJ\& RJzuzt = B26A
g≫⋖z∙r≫fiY
  Me! fir<Lttv=fi< v=:27
  UL Tr Yu! zvt v : 2
  dyrtfiv&J =zwatr>zfiYb vvu v : 266
g"⇒v& gv≫zYx= 72A
\mathbf{C}
hvtyYztr L=z⇒rYtv A26
hz&v1Rfi&r>8277
hz&v1gv≫zYx 8277
h √fiJs v=yfifi>zYx ; 26
h \triangleleft XzY\Omega f v\&fi > Lttv = 62961827B
i >xr=fiJYu
 Tr Yu! zvt v
   N vr YzYx
     Rfi<i 3W3:266
  a fiuJ v
   g! vt zwat r>zfiY= B26;
  b vvu v
```

MVCOa67ht uVB[/jU], ]s/Sk/L

```
N \text{ vr } YzYx : 265
   g>v<z•r>zfiY:265
 c!v∢≯fiY
   MJ ⇔ 928: 1928C
   XzYvr < 928A
 dyrtfiv&J =zwxtr>zfiY
   a fiuJ v
     Ov=t <2!>zfiY 628A
     g! vt zwat r>zfiY= B26:
   c!v∢≯fiY
     MJ ⇔ 928: 1928C
     XzYvr < 928A
 dfi[ v< 928:
i > xt=fiJ Yu a fi<√ g v>xYx= 7265
i Υ! rt ΩzΥx 627
i Y! rYYvu j ∞xt xfi&" gvxJ! 1j rtJJ& RJzuzt = 9299
\mathbf{E}
j rtJJ& RJzuzt=li Y! rYYvu j zwt≯i&" gvJ! 9299
j rtJJ& Xz&z>gv≫zYx= 727:
j rtJJ& f v≓ fiY=v 9288
j LRU 6275
j vY≯vu Lz<Rfi∢ vu UYvI =zfiY 6275
j vYzYx 9288
j zuvfi c Zv<r" hrs 726C
jz=tfivr⇒ztfv&fiZr
 c! v∢≯fiY 9287
j z≪t≯i&" a fi<v 7268
j fizt v NfiYws≪kr≯fiY 726A
K
mr[
 L =! z∢ >zfiY 62; 5
```

u VB[/jU[,] s / Sk/L MCOa67ht





VALEANT 1400 North Goodman Street Rochester, NY 14609, USA		
DESCRIPTION: YEppeyo Gpoff CP25566 esi CP26566 Ut'Eyotyb'ly,'SesMep0KCR0YaR		
PART No.: 5246A12GT SPEC No. or SPEC DIMENSIONS:		
SPECIAL INSTRUCTIONS: Ft pb hEi		
PRINT SUPPLIERS: Please refer to Valeant's Print Supplier Guidelines		
BLACK CYAN YELLOW MAGENTA		



Stellaris ELITE™ Catalogue



BUILT FOR THE NEXT GENERATION.
BUT READY FOR THIS ONE.

**BAUSCH+LOMB** 



# Table of Content

- Vitrectomy Solutions for Any Practice (Hardware and Accessories)
- 11 Illumination
- 12 Laser
- 16 Instrumentation
- 23 Vitreoretinal Tamponades
- 25 Anterior Capabilities
- 29 Product Reference

## BL15455

## Stellaris ELITE™

0 0

laser with 1 Xenon + 1 Xenon Mercury Combined system with an integrated lamp assembly



### BL14455

integrated laser) with 1 Xenon +1 Xenon-Mercury lamp assembly Combined system (without the Stellaris ELITE™



## Stellaris ELITE" Anterior System BL11145

BL4391 Foot Control Wall Charger BL4390 Foot Control Battery BL2394 Integrated Foot Pedal

BL4393 Foot Control Charging Cradle

BL4394 Foot Control Power Cable









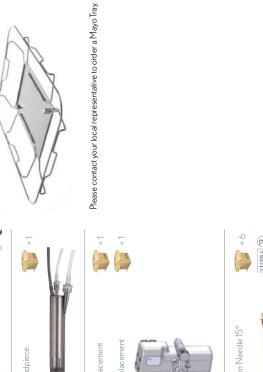








BL2272 Laser Upgrade Kit







# SE5520M / SE5520W

# 20G Combined Pack

STERILE (2) = 6

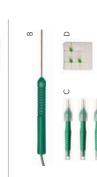
Pack Includes:

- A 20G Vitrectomy cutter
- B 20G Midfield light pipe or Wide angle light pipe
- C 20G MVR knife
  - D Scieral plug package 19 & 20









9=

STERILE (2)

SE5523MV / SE5523WV

23G Combined Pack

Pack Includes:

B 23G Midfield light pipe or Wide angle light pipe

A 23G Vitrectomy cutter

C 23G Valved ESA system

D 23G Scleral plugs



B 20G Midfield light pipe or Wide angle light pipe

A 20G Vitrectomy cutter

SE5420M / SE5420W

20G Posterior Pack

Pack Includes:

C 20G MVR knife D Scleral plug package - 19 & 20



STERILE (2)







## SE5423MV / SE5423WV 23G Posterior Pack













B 23G Midfield light pipe or Wide angle light pipe A 23G Vitrectomy cutter































































# 25G Posterior Pack

A 25G Vitrectomy cutter

B 25G Midfield light pipe or Wide angle light pipe





9=

STERILE (2)

SE5525MV / SE5525WV

25G Combined Pack

Pack Includes:

B 25G Midfield lightpipe or Wide angle lightpipe

A 25G Vitrectomy cutter

C 25G Valved ESA system

D 25G Scleral plugs

9=

STERILE (2)

BL5280 Dual Infusion Kit

All the above packs come with the items below. 1 Cassette with AFI tube as sembly

C 25G Valved ESA system D 25G Scleral plugs



1 Cassette with AFI tube assembly

All the above packs come with the items below.

- 2 Second aspiration line
- 3 Infusion line
- 4 Drapes for Mayo tray, screen and remote control

4 Drapes for Mayo tray, screen and remote control

Cassette stopper 7 Male luer coupler

6 Test chamber

2 Second aspiration line

3 Infusion line

8 Irrigation MICS sleeves x 2

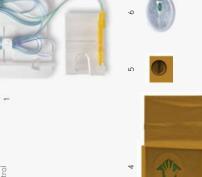
9 Priming cup

Pre-piercing spike assembly

12 Second stopcock 10 Needle wrench

- 5 Cassette stopper
  - 6 Priming cup
- 7 Male luer coupler

- 8 Pre-piercing spike assembly9 Second stopcock









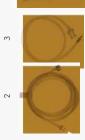
















4































## SE5525MVB/SE5525WVB 25G Combined Pack

Pack Includes:

- A 25G Bi-Blade "Vitrectomy cutter •bi•Blade B 25G Wide angle or midfield light pipe
  - C 25G Valved ESA system
    - D 25G Scleral plugs

9=

STERILE (2)

A 27G Bi-Blade™ Vitrectomy cutter •bi•Blade

27G Combined Pack

SE5527MVB

Pack Includes:

C 27G Valved ESA system B 27G Midfield light pipe

## 9= STERILE (2)







### 9= STERILE (2)







































# SE5427MVB

A 27G Bi-Blade" Vitrectomy cutter •bi-Blade Pack Includes:

B 27G Midfield light pipe C 27G ValvedESA system









# 27G Posterior Pack













# All the above packs come with the items below.

- 1 Cassette with AFI tube assembly
  - 2 Second aspiration line
- 4 Drapes for Mayo tray, screen and remote control 3 Infusion line

4 Drapes for Mayo tray, screen and remote control

5 Cassette stopper

6 Test chamber

All the above packs come with the items below.

1 Cassette with AFI tube assembly

2 Second aspiration line

3 Infusion line

- 5 Cassette stopper
  - 6 Priming cup
- 7 Maleluer coupler
- 8 Pre-piercing spike assembly9 Second stopcock



9

4

ന

11 Pre-piercing spike assembly

10 Needle wrench

9 Priming cup

12 Second stopcock

8 Irrigation MICS sleeves x 2

7 Maleluer coupler









# Stellaris Elite™ Bi-Blade™ Vitrectomy Cutter

SE5625B 25G Bi-Blade™ Vitrectomy

SE5627B 27G Bi-Blade<sup>TM</sup> Vitrectomy cutter .bi.Blade











STERILE (2)

STERILE (2)



STERILE (2)

STERILE (2)

BL5285 25G Single Trocar-Valved

BL5286 25G Replacement Valves

BL524127G Single Trocar-Valved

## Stellaris ELITE™

# With fully integrated laser

## BL2272 Laser Upgrade Kit

Laser Filters

=

Key switch and cabling (2) keys Laser mounting brackets E-stop and cabling Laser module

Laser to power input module cabling Anterior module with laser support Laser drawer replacement cover Laser power input module

Laser optical patch cord

CAN and power cabling Upgrade software kit

External new labels Goggles

BL2394 Integrated New Design Footpedal

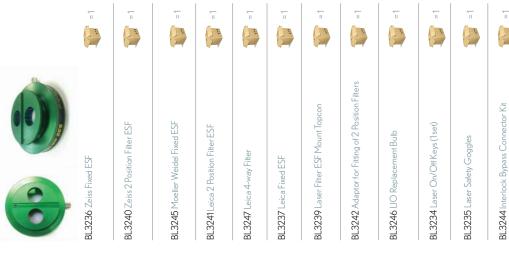












- Laser room interlock connector

- Microscope filter override key - Microscope filter connector





BL2296 Auxiliary Footpedal for LIO Use



## Directional™ Laser Probes

## Directional™ II Laser Probe

55.27.25.25G 55.27.27.27G 55.27.23 23G 55.27 20G



## Directional™ Laser Probe

55.26.23 23G 55.26.25, 55.26.25S 25G 55.26 20G

= 12

STERILE (2)

55.26.27 27G

55.26.231 Laser Probe Directional" 123G Direct connect to Quantel Vitra and Supra

55.26.251 Laser Probe Directional" | 25G Direct connect to Quantel Vitra and Supra

# Extendable Directional™ Laser Probe

55.26E 20G 55.26.23E 23G 55.26.25E 25G

= 12 STERILE (2)

# Inverted Directional™ Laser Probe

55.36.23E23G 55.36.25E25G

= 12 STERILE (2)

## Straight Laser Probes

## Straight Laser Probe

= 12

STERILE (2)

55.21 20G 55.21.23 23G 55.21.25S 25G 55.21.27 27G





55.69P 20G 55.69.23P 23G 55.69.25P 25G

=12

STERILE (2)

Curved Fixed Extended Illuminated Laser Probe,

37° Curve

Illuminated Laser Probes\*

# **Curved Laser Probes**

## Flexible Tapered Laser Probe

= 12

55.62.23P23G 55.62.25P25G

Straight Fixed Extended Illuminated Laser Probe

STERILE (2)

55.25.23 23G 55.25.25 25G





# FruCurve Curved Laser Probe\*, 37° Curve

=12

55.70.23P 23G 55.70.25P 25G

Flexible Tapered Illuminated Laser Probe

STERILE (2)



55.23 20G 55.23.23 23G 55.23.25 25G 55.23.27 27G

# Illuminated Directional™ Laser Probe

55.47P 20G 55.47.23P 23G 55.47.25P 25G





# Illuminated Directional™ II Laser Probe

55.48.23P 23G 55.48.25P 25G



=12 STERILE (2)

Synergetics\* Laser Footbes will Cornect:
Index oil Colix / YX
Index oil Colix / YX
Index oil Colix / YX
Index oil Siz / IoS
Alcon Periporit
Alcon Periporit
Alcon Correlation
Bausch - Lomb Stellars\*PC
Ellex Stel \*Direct Connect models available for Quantel Vitra Quantel Supra and Lumenis

## Storz® Ophthalmic Instruments

- Fully disposable
- Ergonomic Handle with actuation from two sides
  - Nonreflective instrument shaft
- Color coded handles for gauge identification ·20G, 23G, 25G, 27G



## **Endgripping Forceps**

65023S-1223G 65025S-12 25G





## SUI13-1227G

## Asymmetric Peeling Forceps

SUI05-12 25G

STERILE (2)







STERILE (2)







23G

STERILE (2)

E7930 23G Bipolar Eraser, Tapered,

Lemosa Type Connector

STERILE (2)

E7931 23G Bipolar Eraser, Tapered,

2-pin Connector



## SUI10-12 20G

STERILE (2) = 12







SUI03-12 23G

### **ILM Forceps**

SUI09-12 20G SUI08-12 25G SUI07-12 23G

23G

25G

## Serrated Forceps

27G

### SU112-12 25G

SUI1-12 23G

SU114-12 27G

STERILE (2)

E7924 25G Bipolar Eraser, Tapered,

25G

2-pin Connector

STERILE (2)

E7925 25G Bipolar Eraser, Blunt,

2-pin Connector

## available as component of a Per Procedure Tray. Selected sterile single use instruments are

instruments selected by you. Assemble your individual kit of sterile single use instruments with the new online Per Procedure Tray The Per Procedure Tray is a complete kit of sterile single use Configurator. For more information visit: www.storzeye.eu



STERILE (2)

E7927 25G Bipolar Eraser, Blunt,

Lemosa Type Connector

STERILE (2)

E7926 25G Bipolar Eraser, Tapered,

Lemosa Type Connector

## M型 STERILE (2)

Membrane Picks

SUK0123G

= 12

## 27G

STERILE (2)

E7932 27G Bipolar Eraser, Tapered,

Lemosa Type Connector

STERILE (2)

SUK02 25G





STERILE (2) = 12

E7928 Scleral Bipolar Eraser, Lemosa Type Connector

Bipolar Erasers

=



### CX9400 Reusable Bipolar Cord with 2-pin Connector

STERILE (2)

E7929 20G Bipolar Eraser, Tapered,

20G

Lemosa Type Connector



## Aspiration Handpieces













9= STERILE (2) SUJ13 23G Backflush/Extrusion

Handpiece, Soft tip, Green color code ring,















STERILE (2) = 6

# Synergetics® Pinnacle 360°™

Pinnacle  $360^{\circ}$  is our high quality line of fully disposable, hand-held retinal surgical instruments.

- · Offers wide variety of disposable tip options Fully disposable
- 360° actuation to approach the retina from any angle
  - Color coded handles for gauge identification 20G, 23G, 25G, 27G, Foreign Body

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( pinnacie ************************************	• pinnaale	(a) pirmode	● pinnacle	• pinnacle ·
20G	23G	25G	27G	oreign Body

## **ILM Forceps**

## **Eckardt Forceps**

39.08PIN 20G 39.08.23PIN 23G 39.08.25PIN 25G 39.08.27PIN 27G

STERILE (2)















09;12PIN 20G 09;12:23PIN 23G 09;12:25PIN 25G









## Fine Tip Eckardt Forceps

09:10:23PIN 23G 09:10:25PIN 25G









39.07.23PIN 23G 39.07.25PIN 25G



Microserrated™ Tewari Omnicep Forceps

## Microserrated™ End-Grasping Forceps STERILE (2)







39.03.23PIN 23G 39.03.25PIN 25G 39.03.27PIN 27G



## Heavy Membrane Forceps

## Pyramid Tip Forceps

11.04.23PIN 23G 11.04.25PIN 25G







= 5

STERILE (2)

23.76PIN 20G 23.76.23PIN 23G 23.76.25PIN 25G

STERILE (2)

**BB Removal Forceps** 

11.40PIN 18G

**Foreign Body** 

Horizontal Scissors Curved

Scissors



























Serrated Jaw Forceps

11.06.23PIN 23G 11.06.25PIN 25G

11.20PIN 19G

STERILE (2) 1 = 5

Morris Vertical Scissors

10.24 PIN 20G 10.24.23 PIN 23G 10.24.25 PIN 25G

STERILE (2)

Foreign Body Forceps



















































**Dual Purpose Forceps** 

Apte Corset Forceps































STERILE (2)

09:10.23PIN-M 23G 09:10.25PIN-M 25G

Fine Tip Eckardt Forceps

Myopic Forceps

STERILE (2)

Foreign Body Magnet

12.21PIN 18G





Pick Forceps Pick Forceps



39.15.23PIN 23G 39.15.25PIN 25G

39:15.27PIN 27G

MENI









S = 2

STERILE (2)

09.05.23PIN 23G 09.05.25PIN 25G

























# DDMS™ Diamond Dusted Membrane Scrapers

2004 20G 2004.23 23G 2004.255 (Stiff) 25G





## 20.04.27 27G

## Retractable Tano

2016 20G 2016.23 23G 2016.25 25G











### Backflush

23G Silicon Tip active backflush D31.08.25 D31.08.23



25G Silicon Tip active backflush

STERILE (2) = 6



STERILE (2) = 5

STERILE (2)

30.90 Silicone Oil collector chamber









Subretinal cannula 25G tip 41G

12.03.25

Subretinal Cannula



Soft tip cannula

9=

STERILE (2)













STERILE (2) = 6

Injects viscoelastic for delaminating

12.06.25 25G 28G Tip

STERILE S = 5

large membranes from the retina

Hubbard Visco Dissector

Visco Dissector

9=

BL7620 High Flow VFI Cannula 20G STERILE 3

NEW!

9=

STERILE (2)

BL7623 High Flow VFI Cannula 23G





STERILE (2)

Injects viscoelastic for delaminating

12.06.27 27G

large membranes from the retina







# STERILE (8) 115 = 6

# Disposable Infusion Cannulas

### 6mm Tip

30.32.23 23G 30.32.25 25G

For severe vitreous hemorrhaging

• For use with Synergetics® steel cannula sets (sold separately)



### Bipolar

## Bipolar Cautery

53.00.23 23G 53.00.25 25G









## Adaptive Fluidics™ Pack

Adaptive Fluidics" Premium Pack BL5115-1

Pulse, Reflux, StableChamber® 2.0 MICS™ needle 2.4mm sleeves X2

Adaptive Fluidics Standard Pack BL5115-2

STERILE (2)

9=

Pulse, Reflux, Standard tubing 2.0 MICS\*\* needle 2.4mm sleeves X2

STERILE (2)

Adaptive Fluidics™ MICS

BL5115-3

Premium Packs

9=

BL5623S

Pulse, Reflux, StableChamber®

2.0 MICS™ needle MICS sleeves X2

STERILE (2) No Pulse, Reflux, Standard tubing Adaptive Fluidics™ Basic Pack

BL5115-4

MICS<sup>TM</sup> sleeve





### MENI

STERILE (2) 23G vitrectomy cutter\*







25G vitrectomy cutter\*

BL5625S





9=

Male/male Adapter Adapter Tubing (required for Stellaris®PC) Anterior Vitrectomy Adapter Kit Infusion Cannula Content: BL3190

## Phaco Tips for MICS™ Surgery

RIS: Recommended Incision Size in Coaxial OD: Outer Diameter ID: Inner Diameter

Single Use

9=

STERILE (2)

20G High Speed (30-5000cpm) Anterior Vitrectomy Cutter Pack\*

BL5612

9=

STERILE (2)

Anterior Vitrectomy cutter\*

BL3318S MICS" needle 1,8

STERILE (2) = 6

BL3318AS MICS" needle 1,8 angled 30° STERILE (2) = 6

BL3420 2.0 MICS" needle

STERILE (2)

RIS: 1.8-2.00mm OD: 0.74-0.95mm ID: 0.5-0.79mm

Reusable limited re-use (10 cases)

BL3318 MICS" needle 1,8

9=

BL3318A MICS™ needle 1,8 angled 30°

RIS: 1.8-2.00mm OD: 0.74-0.95mm ID: 0.5-0.79mm

9=

STERILE 🔇 🐪

BL3118 Kit of 2 SU MICS" Sleeves

BL3124S 2.4mm sleeve

STERILE (8) 11 = 24

\*Only for Stellaris ELITE™ Anterior (2500 cpm)



# Stellaris® System Coaxial I/A Handpieces

Stellaris® System CapsuleGuard® I/A Coaxial

Handpieces

85910ST Capsule Guard® I/A Handpiece STERILE

45° Tip – Incisions: 2.2mm-2.8mm

**85794ST** MICS" VA Handpiece, curved STERILE  $\otimes$  = 12 shaft with sleeve for 1.8mm incision





= 12

 $\textbf{85912ST} \ \mathsf{CapsuleCuard}^{\circledcirc} \ \mathsf{I/A} \ \mathsf{Handpiece} \quad \overline{\mathsf{STERILE}} \ \widehat{\otimes} \\ \mathsf{Straight} \ \mathsf{Tip-Incisions:} \ \mathsf{2.2mm-2.8mm} \\$ 



85913ST CapsuleGuard® I/A Handpiece STERILE (③) Curved Tip – Incisions: 2.2mm-2.8mm

85914ST Capsule Guard® I/A Handpiece STERILE

MICS® Straight Tip – Incisions: sub 20mm





Handpiece straight shaft,  $90^\circ$  angled tip,

0.3mm aspiration port



Aspiration

Stellaris® System Biaxial I/A Handpieces

STERILE (2) STERILE (2) 85901S20 Aspiration Handpiece 20G 85901S19 Aspiration Handpiece 19G

SUP01ST Stellaris® System Zero Phaco STERILE

For aspirating softened nuclei during femtosecond aspiration tube with 30° bevel. Recommended for

Handpiece 1.8mm

= 12

cataract surgery. Designed with an open port

= 12

use in a 1.8 mm incision. Designed for use with the

Stellaris® System.

= 12

Stellaris® System Coaxial Zero Phaco

Handpieces

85780S Aspiration Handpiece 21G

85790S Aspiration Handpiece 22G (Ø 0.7 mm)

= 12

STERILE (2)

85792S Aspiration Handpiece 23G

STERILE (2)

= 12

STERILE (2)

SUP06ST Stellaris® System Zero Phaco

Handpiece 2.2mm

For aspirating softened nuclei during femtosecond aspiration tube with 30° bevel. Recommended for

cataract surgery. Designed with an open port

use in a 2.2mm incision. Designed for use with the

Stellaris® System.

curved shaft roughened tip

# Stellaris® System Biaxial I/A Handpieces Irrigation

STERILE (2) 85787ST 21G Irrigation Handpiece 85902ST191.8mmB-MICS19G (Ø1.07mm) Irrigation Handpiece

STERILE (2)

SUP05 Zero Phaco Aspiration Handpiece 21G (0.8mm).

> STERILE (2) 85806ST 22G Irrigation Handpiece

= 12

= 12

= 12 STERILE (2)

softened nuclei during Femtosecond cataract surgery.

with an open port aspiration tube for aspirating

Bimanual aspiration handpiece, designed

30° tapered tip. For use with 85787ST – Irrigation



85807ST 23G Irrigation Handpiece









Handpiece 21G.















curved shaft smooth tip

Microserrated Tewari Omnicep forceps 25G Microserrated Tewari Omnicep Forceps 27G Microserrated Tewari Omnicep Forceps 25G, 37mm Microserrated" Tewari Omnicep Forceps 23G, 37mm Microserrated" Tewari Omnicep Forceps 23G Microsenrated" End-Grasping Forceps 23G Microserrated" End-Grasping Forceps 25G Horizontal Scissors Curved 20G 6mm Tip Disposable Infusion Cannula 23G 6mm Tip Disposable Infusion Cannula 25G Tano Asymmetrical Micro Forceps 23G Tano Asymmetrical Micro Forceps 25G Tano Asymmetrical Micro Forceps 27G Hubbard Visco Dissector 25G, 28G Tip Fine Tip Eckardt Forceps 23G, 37mm Fine Tip Eckardt Forceps 25G, 37mm Fine Tip Eckardt Forceps 25G, 37mm Subretinal Cannula 25G, 41G Tip Horizontal Scissors Curved 23G Horizontal Scissors Curved 25G End-Grasping Forceps 23G
End-Grasping Forceps 25G
End-Grasping Forceps 20G
Morris Vertical Scissors 23G
Morris Vertical Scissors 25G
Morris Vertical Scissors 25G Hubbard Visco Dissector 27G Silicone all collector chamber Fine Tip Eckandt Forceps 23G Pyramid Tip Forceps 23G
Pyramid Tip Forceps 25G
Serrated Jaw Forceps 23G
Serrated Jaw Forceps 25G
Foreign Body Forceps 19G Apte Corset Forceps 23G Apte Corset Forceps 25G BB Removal Forceps 18G Foreign Body Magnet 18G Straight Laser Probe 20G Straight Laser Probe 23G Straight Laser Probe 25G Straight Laser Probe 27G Retractable Tano 20G Retractable Tano 23G Retractable Tano 25G Eckardt Forceps 23G Eckardt Forceps 25G Eckardt Forceps 27G Eckardt Forceps 20G Bipolar Cautery 23G Bipolar Cautery 25G Bipolar Cautery 27G Pick Forceps 23G Pick Forceps 25G Product Name Tano 23G Tano 25G Tano 27G Product Reference 20.04.23 20.04.255 (Stiff) 20.04.27 3912.23 PIN 3915.23 PIN 3915.23 PIN-M 3915.25 PIN-M 3915.25 PIN-M 3915.25 PIN-M 5300.23 0910.23PIN-M 09:10.25PIN-M 30.32.23 30.32.25 30.90 39.03.23PIN 39.07.23PIN 39.07.25PIN 39.08.23PIN 39.08.25PIN 39.08.27PIN 20.16.23 20.16.25 23.76.23PIN 23.76.25PIN 23.76PIN 10.24.23PIN 10.24.25PIN 09.05.25PIN 10.24PIN 11.04.23PIN 11.04.25PIN 11.06.23PIN 0910.25PIN 0910.23PIN 0912.23PIN 0912.25PIN 9.03.27PIN 55.21 55.21.23 55.21.255 55.21.27 55.23 53.00.25 12.03.25 12.06.25 12.06.27 12.21PIN 09:12PIN 120PIN 1.40PIN 20.04

TruCurve Curved Laser Probe, 37° Curve 20G

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Product Name	- F634	Capsule Guard "I/A Handpiece 45" IIp	Capsule Cuard I/A Handpiece Straight lip	CapsuleGuard* I/A Handplece Curved lip	CapsuleGuard® I/A Handpiece MICS® Straight lip	CapsuleGuard® I/A Handpiece MICS® 45° Tp	Stellaris ELITE" Anterior System	Stellaris ELITE"	Stellaris ELITE	Laser Upgrade Kit	l aser Upgrade Kit	Auxiliary Enghandal for IIO Use		ONG Charles States States	Color	Integrated root Pedal	Integrated New Design Footpedal	Nit of Z SU MICS Sleeves	Stellaris Phaco Mandpiece	Laser On/Off Keys (1 set)	Laser Safety Goggles	Zeiss Fixed ESF	Leica Fixed ESF	Laser Fiter ESF Mount Topcon	Zeiss 2 Position Filter ESF	Leica 2 Position Filter ESF	Adaptor for Fitting of 2 Position Filters	Interlock Bypass Connector Kit	Moeller Weidel Fixed ESF	LIO Replacement Bulb	Leica 4-way Filter	Fragmentation Handpiece	MICS® Needle 1,8 Reusable	MICS* Needle 1,8 Angled 30° Reusable	MICS® Needle 1,8 Angled 30° Single Use	MICS® Needle 1,8 Single Use	Xenon Lamp Replacement	Mercury Lamp Replacement	Handle Extension	Stellaris ELITE" Zero Level Bottle Hanger - Dual Bottle	Stellaris ELITE"/Stellaris Mayo Tray Adapter	Foot Control Battery	Foot Control Wall Charger	Foot Control Charging Cradle	Foot Control Power Cable	Adaptive Fluidics Fremium Pack	Adaptive Fluidics Standard Pack	Adaptive Fluidics PILCS Premium Packs	Adaptive Fluidics Basic Pack	Adjustable Chandeller 23G	Adjustable Chandeller ZDG	27C Single Troops Valued	20G Fragmentation Needla 15º	23G Fragmentation Needle 30°	Dual Infusion Kit	23G ESA Kit-Valved	25G ESA Kit-Valved	23G Single Trocar-Valved	23G Replacement Valves	25G Single Trocar-Valved
Product Reference	1304058	859/105/	1621460	1821629	8591451	8591557	8,1145	BL14455	BL15455	BL2272	BI 2272	BI 2296	000010	B12370	B122001E	46C7TQ	81,2394	81318	8170	BL3234	BL3235	BL3236	BL3237	BL3239	BL3240	BL3241	8L3242	BL3244	BL3245	BL3246	BL3247	BL3270	BL3318	BL3318A	BL3318AS	BL3318S	BL3320	BL3321	BL3394	BL4363	BL4364	BL4390	814391	BL4393	BL4394	815115-1	BL5115-2	DL3113-3	BL2113-4	8,522,34 B16,335	B1 E340	BI 5243	815275	815277	815280	815281	81.5282	BL5283	815284	BL5285
Page	7	4 2	4-	4	14	4	14	14	14	14	77	7	7	<u> </u>	† N	7 7	4	4 :	4	14	4	14	15	15	15	5	र्ग	15	15	15	5	5	5	5	=	=	=	=	F	=	=	= :	=	16	0	97	97	77	77	17	07	000	27	27	28	28	28	28	28	28
Product Name	CCC COLC - G IT C C	TriCurve Curved Laser Probe, 3/ Curve 23G	rucurve Curved Laser Probe, 37 Curve £45	IruCurve Curved Laser Probe, 3/ Curve 25G	Flexible lapered Laser Probe 23G	Flexible Tapered Laser Probe 25G	Directional Laser Probe 20G	Directional Laser Probe 23G	Laser Probe Directional 123G	Extendable Directional" Laser Probe 23G	Directional" Laser Probe 25G	aser Prohe Directional"   250°	Estandador Discontinue III and Date 950	Discontinuo III none Beneral Caser Clobe 200	Checumal Laser Foue 20	Extendable Urrectional Laser Probe ZUG	Directional II Laser Probe 20G	Directional II Laser Probe 23G	Directional II Laser Probe 25G	Directional II Laser Probe 2/G	Inverted Directional" Laser Probe 23G	Inverted Directional" Laser Probe 25G	Illuminated Directional" Laser Probe 23G	Illuminated Directional" Laser Probe 25G	Illuminated Directional" Laser Probe 20G	Illuminated Directional" II Laser Probe 23G	Illuminated Directional" II Laser Probe 25G	Straight Fixed Extended Illuminated Laser Probe 23G	Straight Fixed Extended Illuminated Laser Probe 25G	Curved Fixed Extended Illuminated Laser Probe, 37° Curve 23G	Curved Fixed Extended Illuminated Laser Probe, 37° Curve 25G	Curved Fixed Extended Illuminated Laser Probe, 37° Curve 20G	Flexible Tapered Illuminated Laser Probe 23G	Flexible Tapered Illuminated Laser Probe 25G	Standard Illuminated Infusion Chandeller 23G	Standard Illuminated Infusion Chandelier 25G	Standard Illuminated Infusion Chandeller 20G	High-Flow Illuminated Infusion Chandeller 25G	Chandelier Awh 25G	Chandelier Oshima Dual 29G	Chandelier Awh Vivid 25G	Chandelier Oshima Vivid 27G	Synergetics Illumination Adapter / B+L Stellaris Elite	Endgripping Forceps 23G	Endgripping Forceps 25G	Corneal Irrigator	Aspiration Handpiece ZIG	17 CITY Transpiece Curved	// CI/A Mandpiece Straight	Of Leisenberg Handaise (7 0 8mm)	Amination Handpiece (W. U.omm.)	Assistantian Handbiage 220	MICS® /A Handoiece Curved Shaft	MICS <sup>al</sup> /A Handbiece, 45° Analed To	22G Irrigation Handplece (Ø 0.7mm)	23G Irrigation Handpiece (Ø 0.6mm)	Aspiration Handpiece 19G	Aspiration Handbiece 20G	1.8mm B-MICS 19G (Ø1.07mm) Irrigation Handblece	19G (Ø1,07mm)
Product Reference	660333	55.23.23	57.57.55	25.23.2/	55,25,23	55.25.25	55.26	55.26.23	55.26.231	55.26.23E	552625	5526251	KK 04 0KE	10.000 LOT	55.02.02.03 55.04.0	33.28E	17.00	55.27.23	55.27.25	55.27.27	55.36.23E	55.36,25E	55.47.23P	55.47.25P	55,47P	55.48.23P	55,48.25P	55.62.23P	55.62.25P	55.69.23P	55.69.25P	55.69P	55,70,23P	55.70,25P	56.30.23P	56.30.25P	56.30P	56.34.25P	56.50.25P	56.50.29P	56.54.25P	56.54.27P	57.40	650235-12	71-557050	820205	0570307	02/0331	1540/00	85787CT	02/0/31	857975	8579451	8579551	85806ST	85807ST	85901519	85901520	859025719	859035719

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Product Name	MICS" Capsulorhexis with Markings  MICS" Capsulorhexis with Curved Jaws  Koch Stop & Chop Manipulator  Sinskey Hook  Phaco Spatula  Drysdale Nucleus Manipulator with Y-Hook  Phaco Spatula  Barraquer Eye Speculum  Eye Speculum, Adiusbalbe  Asymmetric Peeling Forceps 23G  Asymmetric Peeling Forceps 23G  Asymmetric Peeling Forceps 25G  ILM Forceps 23G  Serrated Forceps 23G  Servated Forceps 23G  Serrated Forceps 23G  Serrated Forceps 23G  Se	
Product Reference	SUE08-12 SUF01 SUF02 SUF03 SUF03 SUF04 SUF04 SUF04 SUF04 SUF04 SUF04 SUF04 SUF04 SUF06 SUF06 SUF07 SUF	
Page	58889999999888999999999999999999999999	26 26 26
Product Name	BLESB6         25G Replacement Valves           BLESD2         High Speed Anterior Vitreactions, Cutter Pack 20G           BLESD2         23G Vitreatomy Cutter / Stellaris ELITE" Anterior only           BLESD2         25G Vitreatomy Cutter / Stellaris ELITE" Anterior only           BLESD2         26G Vitreatomy Cutter / Stellaris ELITE" Anterior only           BLESD2         26G Vitreatomy Cutter / Stellaris ELITE" Anterior only           BLESD2         And Angle 23G           BLESD2         Wide Angle 20G           BLESD2         Wide Angle 20G           Mide Angle 20G         Wide Angle 23G           BLESD2         Wide Angle 23G           Mid Feld 23G         Mid Feld 23G           Diffuse Wide Angle 23G         Mid Feld 23G           BLISD2         Mid Feld 23G           BLISD3	McPherson Tying Forceps, Angled Pierse Tying Forceps MICS" Capsulorhexis Forceps
Product Reference	BL5286 BL5625 BL5625 BL5625 BL5625 BL5625 BL5625 BL5625 BL5626 BL5623 BL5625 BL5625 BL5625 BL5625 BL5625 BL5625 CX9400 CX9430 CX5720 BL7625 BL7626 BL7625 CX9400 CX5720 D3108.23 BJ7625 CX9430 CX5720 D3108.23 BJ7625 BL5625 CX9430 CX5720 D3108.23 BJ7625 BL5625 BL5627 BL5	SUE05-12 SUE05-12 SUE06-12

### **BAUSCH+LOMB**

1400 North Goodman Street Rochester, NY 14609 585.338.6000 www.bausch.com

### EC Declaration of Conformity According to Directive 93/42/EEC as amended by 2007/47/EC

Legal Manufacturer

Bausch & Lomb, Incorporated

1400 N. Goodman St. Rochester, NY 14609 USA

European Authorized Representative(s)\*

Bausch & Lomb GmbH

Brunsbütteler Damm 165-173

13581 Berlin, Germany

**Notified Body** 

**TUV Rheinland** 

LGA Products GmbH

Tillystraβe 2 90431 Nürnberg

Notified Body Number: 0197

**EC Certificate Number** 

EC Cert: HD 60146676 0001

Product (s)

Stellaris Elite vision enhancement systems including

Vitesse handpiece accessory (single use/sterile)

Product Code(s)

See Table on Page 2

**GMDN** Code

45072

Classification

IIb, Rule 11, according to Directive 93/42/EEC Annex IX

Ken Mehmer Date: Oct. 12, 2020

We hereby declare the conformity of the above mentioned products with the European Medical Device Directive 93/42/EEC as amended by 2007/47/EC Annex II, Section 3. Above product(s) is/are developed and manufactured in compliance with the MDD and the applicable European harmonized standards.

Place of Issue: Refer to Manufacturer's Address above

Signature:

Ken Nehmer, Director, Regulatory Affairs

\* The previous EU Authorized Rep address may appear on product manufactured prior to 29-Mar-2019. Bausch & Lomb, Incorporated

106 London Road Kingston-upon-Thames

Name/Title/Position:

KT2 6TN UK



1400 North Goodman Street Rochester, NY 14609 585.338.6000 www.bausch.com

### **EC DECLARATION OF CONFORMITY**

Legal Manufacturer	Bausch & Lomb, Incorporated
	1400 N. Goodman St.
	Rochester, NY 14609 USA
Product (s)	Stellaris Elite vision enhancement systems including Vitesse
,	handpiece accessory (single use/sterile)

Item Number (SKU)	Product Name
BL11145	Stellaris Elite (Anterior model)
BL14455	Stellaris Elite (Posterior/Combined model)
BL15455	Stellaris Elite (Posterior/Combined with Laser model)
BL5631TD	23G Vitesse handpiece 255TD + ESA
BL2394	Foot Control, Elite



### Certificate

The Certification Body of TÜV Rheinland LGA Products GmbH

hereby certifies that the organization

Bausch & Lomb GmbH Im Schuhmachergewann 4 69123 Heidelberg Deutschland

has established and applies a quality management system for medical devices for the following scope:

Design and development, manufacture, distribution and servicing of instruments and products for ophthalmology

Proof has been furnished that the requirements specified in

EN ISO 13485:2016

are fulfilled. The quality management system is subject to yearly surveillance.

Effective Date:

2019-02-12

Certificate Registration No.:

SX 60136091 0001

An audit was performed. Report No.: 21237378 013

This Certificate is valid until:

2022-02-11



Date 2019-02-09

Certification Body



TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg Tel.: +49 221 806-1371 Fax: +49 221 806-3935 e-mail:cert-validity@de.tuv.com http://www.tuv.com/safety



### **EC** Certificate

Directive 93/42/EEC Annex II, excluding Section 4
Full Quality Assurance System
Medical Devices

Registration No.: HD 60146676 0001

Report No.: 31892411 015

Manufacturer: Bausch + Lomb, Incorporated

1400 North Goodman St. Rochester NY 14609

USA

Products: Intraocular Lenses and Ophthalmic Devices

(see attachment for products and additional sites included)

**Expiry Date:** 2024-05-26

The Notified Body hereby declares that the requirements of Annex II, excluding section 4 of the directive 93/42/EEC have been met for the listed products. The above named manufacturer has established and applies a quality assurance system, which is subject to periodic surveillance, defined by Annex II, section 5 of the aforementioned directive. For placing on the market of class III devices covered by this certificate an EC design-examination certificate according to Annex II, section 4 is required.

Effective Date:

2020-10-19

Date:

2020-10-02

**Notified Body** 

Balazs Bozsik

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg
TÜV Rheinland LGA Products GmbH is a Notified Body according to Directive 93/42/EEC
concerning medical devices with the identification number 0197.



Doc. 1/5, Rev. 0

### TÜV Rheinland LGA Products GmbH Tillystraße 2, 90431 Nürnberg

Attachment to Certificate

Registration No.: Report No.:

HD 60146676 0001

31892411 015

Manufacturer:

Bausch + Lomb, Incorporated 1400 North Goodman St. Rochester NY 14609 USA

Additional sites included:

Bausch + Lomb, Incorporated 1501 Graves Mill Road Lynchburg, VA 24502 USA

Bausch + Lomb, Incorporated 3365 Tree Court Industrial Blvd. St. Louis, MO 63122 USA

Bausch + Lomb, Incorporated 499 Sovereign Court Manchester, MO 63011 USA

Bausch + Lomb, Incorporated 50 Technology Drive Irvine, CA 92618 USA

Date: 2020-10-02

Notified Body

TÜVRheinland

Balazs Bozsik



TÜV Rheinland LGA Products GmbH Tillystraße 2, 90431 Nürnberg Doc. 2/5, Rev. 0

Attachment to Certificate

Registration No.:

HD 60146676 0001

31892411 015

Manufacturer:

Report No.:

Bausch + Lomb, Incorporated 1400 North Goodman St.

Rochester NY 14609

USA

Additional sites included:

Bausch + Lomb, Incorporated 21 Park Place Blvd. N. Clearwater, FL 33759 USA

Date: 2020-10-02

Notified Body

TÜVRheinland

Balazs Bozsik



Doc. 3/5, Rev. 0

### TÜV Rheinland LGA Products GmbH Tillystraße 2, 90431 Nürnberg

Attachment to Certificate

Registration No.: Report No.: HD 60146676 0001 31892411 015

Manufacturer:

Bausch + Lomb, Incorporated 1400 North Goodman St. Rochester NY 14609 USA

### Products included:

- Viscoelastics, HPMC (Hydroxypropylmethylcellulose)
- Viscoelastics, bacteria fermented
- IOL, Anterior Chamber PMMA Lenses
- IOL, Posterior Chamber PMMA Lenses
- IOL, Posterior Chamber Lenses, Foldable, Softport and Softflex, and Hydropholic Arylic
- IOL, Posterior Chamber Lenses, Foldable, enVista
- IOL, Posterior Chamber Lenses, Foldable, Hydrophobic Arcrylic
- Silicone Oil
- Ophthalmic Microsurgical System, Stellaris
- Ophthalmic Microsurgical System, Stellaris PC
- Ophthalmic Microsurgical Handpieces, for Premiere
- Ophthalmic Microsurgical Handpieces, for Millineum
- Ophthalmic Microsurgical Handpieces, for Stellaris PC
- Ophthalmic Microsurgical Handpieces, for Stellaris

Date: 2020-10-02

Notified Body

TÜVRheinland

Balazs Bozsik



Doc. 4/5, Rev. 0

### TÜV Rheinland LGA Products GmbH Tillystraße 2, 90431 Nürnberg

Attachment to Certificate

Registration No.:

HD 60146676 0001

Report No.:

31892411 015

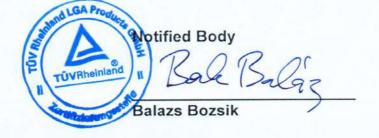
Manufacturer:

Bausch + Lomb, Incorporated 1400 North Goodman St. Rochester NY 14609 USA

### Products included:

- Ophthalmic Procedure Packs, with energy driven components for Protégé, Premiere, Millennium
- Ophthalmic Procedure Packs, with energy driven components for Stellaris
- Ophthalmic Procedure Packs, with energy driven components for Stellaris PC
- Non-active Ophthalmic Procedure Packs, for Protégé, Premiere, Millennium
- Non-active Ophthalmic Procedure Packs, for Stellaris
- Non-active Ophthalmic Procedure Packs, for Stellaris PC
- Non-active Ophthalmologic Product, Balanced Salt Solution
- Non-active Ophthalmologic Product, sterile Cannula and Cystotomes
- Non-active Ophthalmologic Product, Laseredge knife
- Non-active Ophthalmologic Product, non-sterile Cystotomes
- Non-active Ophthalmologic Product, Infusion/
- Ophthalmic Microsurgical Handpieces, for Stellaris PC
- Non-sterile Cannula

Date: 2020-10-02





Doc. 5/5, Rev. 0

### TÜV Rheinland LGA Products GmbH Tillystraße 2, 90431 Nürnberg

Attachment to Certificate

Registration No.:

HD 60146676 0001

Report No.:

31892411 015

Manufacturer:

Bausch + Lomb, Incorporated 1400 North Goodman St. Rochester NY 14609 USA

### Products included:

- Non-active Ophthalmologic Product,

Lens Insertion Device, disposable - use with Silicone IOLs

- Non-active Ophthalmologic Product,

Lens Insertion Device, disposable - use with Acrylic IOLs

- Non-active Ophthalmologic Product

Lens Insertion Device, cartridge with disposable handpiece

- Non-active Ophthalmologic Product,

Lens Insertion Device, cartridge with reusable handpiece

- Non-active Ophthalmologic Product,
- Non-active Ophthalmologic Product, Phaco Needle
- Active Ophthalmic Device, Irregation/Aspiration handpiece
- Active Ophthalmic Device, Bipolar Forceps

For the following devices the scope covers only the aspect of manufacture concerned with conformity of the products with the metrological requirements:

- Markers, Rulers and Gauges

Date: 2020-10-02

Notified Body

TÜV

Balazs Bozsik