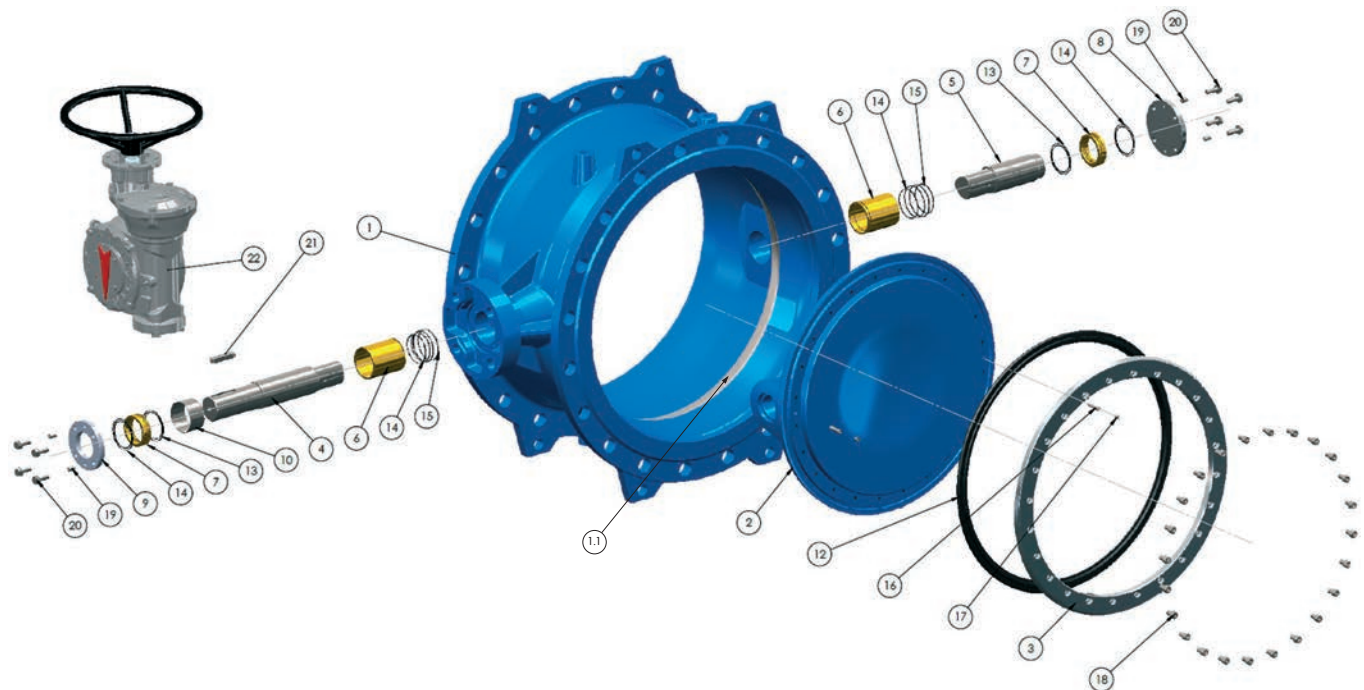


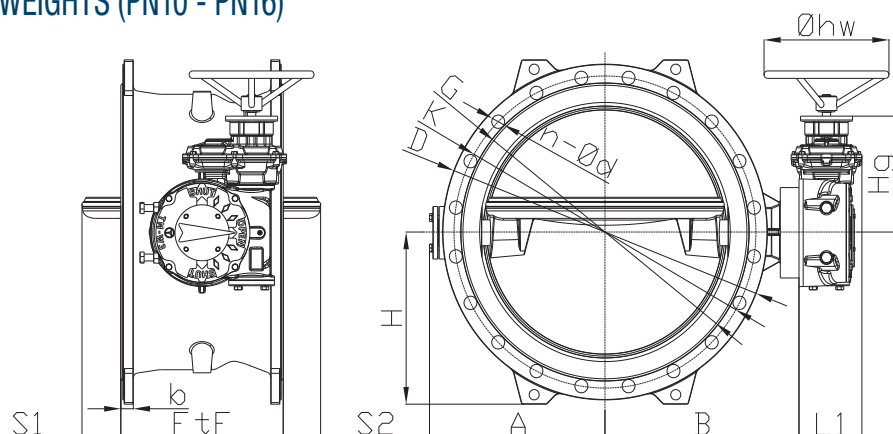
COMPONENT AND MATERIALS



ITEM	COMPONENT	MATERIAL DESIGNATION	NOTE
1	Body	Ductile iron EN GJS 400-15	Epoxy coating 250 µm
1.1	Body seat ring	Stainless steel	Welded and microfinished
2	Disc	Ductile iron EN GJS 400-15	Epoxy coating 250 µm
3	Retaining seal ring	Stainless steel AISI 304 (EN 1.4301)	
4	Driven shaft	Stainless steel AISI 420 (EN 1.4021)	
5	Shaft (free end)	Stainless steel AISI 420 (EN 1.4021)	
6	Bearing bush	Aluminum bronze*	
7	Sealing bush	Aluminum bronze	
8	Cover	Stainless steel AISI 304 (EN 1.4301)	
9	Sealing bush flange	Stainless steel AISI 304 (EN 1.4301)	
10	Spacer	Stainless steel AISI 304 (EN 1.4301)	
12	Disc sealing ring	EPDM rubber	
13	O-ring	EPDM rubber	
14	O-ring	EPDM rubber	
15	O-ring	EPDM rubber	
16	Anti-blow out for shaft	Stainless steel	
17	Grub screw	Stainless steel A2-70	
18	Retaining ring screw	Stainless steel A2-70	
19	Grub screw	Stainless steel A2-70	
20	Screw and washer	Stainless steel A2-70	
21	Parallel key	Steel	
22	Gearbox	According to manufacturer specification	

* PN25-PN40, from DN600 and above, PTFE bronze coated

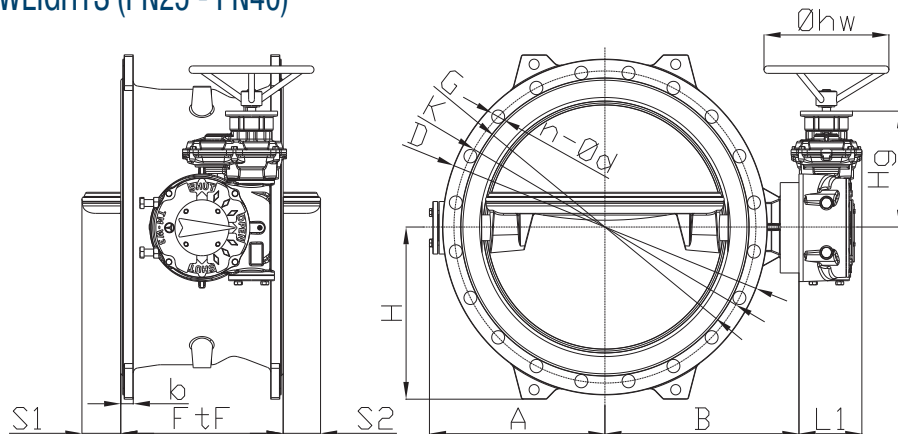
DIMENSIONS AND WEIGHTS (PN10 - PN16)



PN10														
DN	G	K	D	n-ød	b	FtF	A	B	L1	H	Hg	S1 - S2	øhw	W (kg)
200	266	295	340	8-23	20	230	185	218	91	180	133	-	300	51
250	319	350	395	12-23	22	250	209	242	91	210	133	-	300	63
300	370	400	445	12-23	24.5	270	240	268	114,5	235	186	15	300	82
350	429	460	505	16-23	24.5	290	263	291	114,5	262	186	30	300	112
400	480	515	565	16-28	24.5	310	298	336	123	288	210	40	300	146
450	530	565	615	20-28	25.5	330	325	363	149	312	251	55	300	185
500	582	620	670	20-28	26.5	350	348	386	149	342	251	70	300	216
600	682	725	780	20-31	30	390	422	466	149	400	263,5	95	300	333
700	794	840	895	24-31	32.5	430	482	530	200	460	315	130	400	515
800	901	950	1015	24-34	35	470	541	617	215	520	347,5	160	400	696
900	1001	1050	1115	28-34	37.5	510	614	673	215	568	347,5	190	400	942
1000	1112	1160	1230	28-37	40	550	675	721	215	625	347,5	215	400	1151
1100	1218	1270	1340	32-37	42.5	590	742	784	268	695	412	250	400	1565
1200	1328	1380	1455	32-41	45	630	798	868	268	738	412	275	400	1913
1400	1530	1590	1675	36-44	46	710	985	965	280	853	464,5	-	630	3004
1600	1750	1820	1915	40-50	49	790	1115	1110	345,5	973	576,5	-	630	4881
1800	1950	2020	2115	44-50	52	870	1245	1200	345,5	1073	576,5	-	630	5750
2000	2150	2230	2325	48-50	55	950	1495	1487	357	1183	624	-	630	7940

PN16														
DN	G	K	D	n-ød	b	FtF	A	B	L1	H	Hg	S1 - S2	øhw	W (kg)
200	266	295	340	12-23	20	230	185	218	91	180	133	-	300	51
250	319	355	405	12-28	22	250	209	242	91	210	133	-	300	63
300	370	410	460	12-28	24.5	270	240	268	114,5	235	186	15	300	82
350	429	470	520	16-28	26.5	290	275	313	123	267	210	30	300	114
400	480	525	580	16-31	28	310	298	336	149	293	251	40	300	172
450	548	585	640	20-31	30	330	336	386	149	324	251	55	300	217
500	609	650	715	20-34	31.5	350	372	420	149	638	263,5	70	300	290
600	720	770	840	20-37	36	390	430	492	200	430	315	95	400	476
700	794	840	910	24-37	39.5	430	497	572	215	470	347,5	130	400	600
800	901	950	1025	24-41	43	470	581	626	215	525	347,5	160	400	795
900	1001	1050	1125	28-41	46.5	510	644	686	268	573	412	190	400	1140
1000	1112	1170	1255	28-44	50	550	701	770	268	636	412	215	400	1451
1100	1218	1270	1355	32-44	53.5	590	792	818	280	696	464,5	250	630	1888
1200	1328	1390	1485	32-50	57	630	849	886	280	750	464,5	275	630	2327
1400	1530	1590	1685	36-50	60	710	992	965	345,5	858	576,5	-	630	3335
1600	1750	1820	1930	40-57	65	790	1136	1110	345,5	980	576,5	-	630	5028
1800	1950	2020	2130	44-57	70	870	1246	1220	356,5	1080	624	-	630	6787
2000	2150	2230	2345	48-62	75	950	1520	1385	357	1188	624	-	630	8940

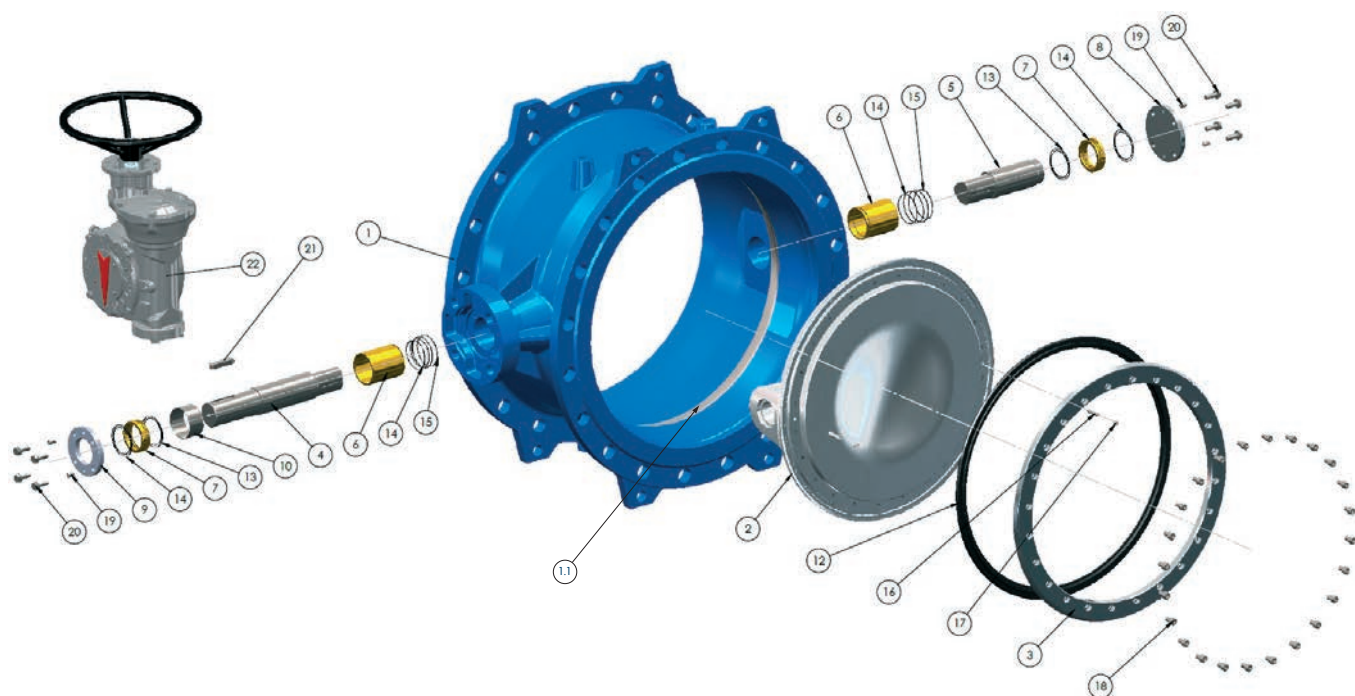
DIMENSIONS AND WEIGHTS (PN25 - PN40)



PN25														
DN	G	K	D	n-Ød	b	FTF	A	B	L1	H	HG	S1-S2	Øhw	W (kg)
200	274	310	360	12-28	22	230	185	218	91	180	133	-	300	54
250	330	370	425	12-31	24.5	250	216	244	114,5	223	186	-	300	82
300	389	430	485	16-31	27.5	270	252	290	123	253	210	15	300	123
350	448	490	555	16-34	30	290	288	337	149	290	251	30	300	166
400	503	550	620	16-37	32	310	323	371	149	312	263,5	40	300	243
450	548	600	670	20-37	34.5	330	364	426	200	345	315	55	400	337
500	609	660	730	20-37	36.5	350	393	469	200	375	315	70	400	408
600	720	770	845	20-41	42	390	457	517	215	433	347,5	95	400	577
700	820	875	960	24-44	46.5	430	544	586	215	490	347,5	130	400	815
800	928	990	1085	24-50	51	470	606	676	268	560	412	160	400	1126
900	1028	1090	1185	28-50	55.5	510	676	704	280	610	464,5	190	630	1529
1000	1140	1210	1320	24-57	60	550	751	788	280	675	464,5	215	630	1992
1200	1350	1420	1530	32-57	69	630	869	901	338	775	535,5	275	630	3049
1400	1560	1640	1755	36-62	74	710	992	1040	357	858	624	-	630	4500
1600	1780	1860	1975	40-62	81	790	1250	1195	357	998	624	-	630	6310

PN40														
DN	G	K	D	n-Ød	b	FTF	A	B	L1	H	HG	S1-S2	Øhw	W (kg)
200	284	310	360	12-28	22	230	192	220	114,5	198	186	-	300	67
250	345	370	425	12-31	24.5	250	228	266	123	236	210	-	300	113
300	409	430	485	16-31	27.5	270	264	313	149	268	251	15	300	174
350	465	490	555	16-34	30	290	310	358	149	305	263,5	30	300	219
400	535	550	620	16-37	32	310	343	419	200	340	315	40	400	378
450	560	600	670	20-37	34.5	330	391	450	215	353	347,5	55	400	444
500	615	660	730	20-37	36.5	350	420	480	215	388	347,5	70	400	527
600	735	770	845	20-41	42	390	455	494	268	536	412	95	400	846
700	840	900	995	24-48	64	430	576	604	280	508	464,5	130	400	1249
800	960	1030	1140	24-57	72	470	654	691	280	580	464,5	160	630	1606
1000	1180	1250	1360	28-57	80	550	770	801	346	690	577	215	630	2170
1200	1380	1460	1575	32-62	88	630	923	935	357	800	624	275	630	3325

DOUBLE FLANGED DOUBLE ECCENTRIC BUTTERFLY VALVE WITH HIGH CORROSION-RESISTANT MATERIALS



ITEM	COMPONENT	MATERIAL DESIGNATION	NOTE
1	Body	Ductile iron EN GJS 400-15	Epoxy coating 300 µm
1.1	Body seat ring	Stainless steel AISI 316L (EN 1.4404)	
2	Disc	Stainless steel AISI 316 (EN 1.4408)	
3	Retaining seal ring	Stainless steel AISI 316Ti (EN 1.4571)	
4	Driven shaft	Stainless steel DUPLEX (EN 1.4462)	
5	Shaft (free end)	Stainless steel DUPLEX (EN 1.4462)	
6	Bearing bush	Aluminum bronze*	
7	Sealing bush	Aluminum bronze	
8	Cover	Stainless steel AISI 316 (EN 1.4401)	
9	Sealing bush flange	Stainless steel AISI 316 (EN 1.4401)	
10	Spacer	Stainless steel AISI 316 (EN 1.4401)	
12	Disc sealing ring	EPDM rubber	
13	O-ring	EPDM rubber	
14	O-ring	EPDM rubber	
15	O-ring	EPDM rubber	
16	Anti-blow out for shaft	Stainless steel	
17	Grub screw	Stainless steel A4-70	
18	Retaining ring screw	Stainless steel A4-70	
19	Grub screw	Stainless steel A4-70	
20	Screw and washer	Stainless steel A4-70	
21	Parallel key	Steel	
22	Gearbox	According to supplier specification	

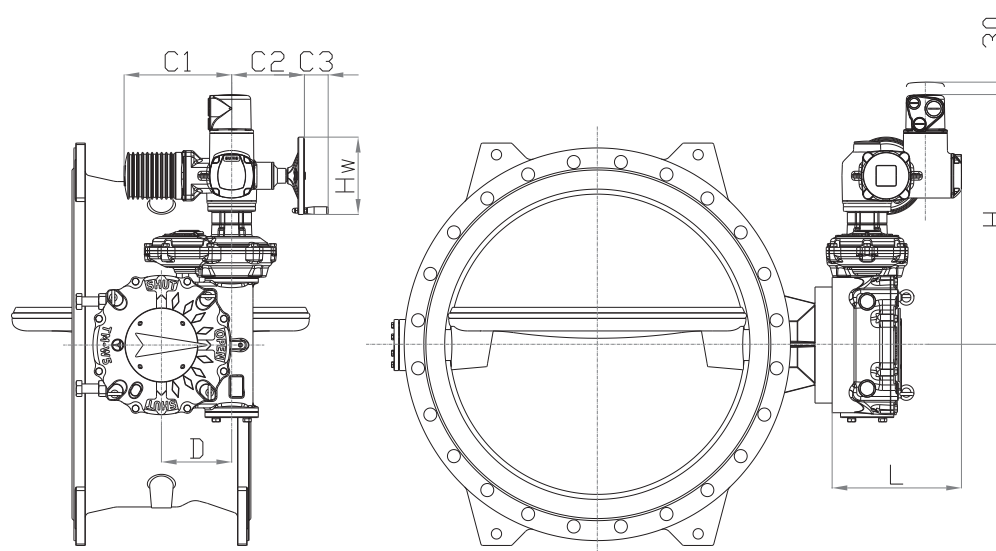
* PN25-PN40, from DN600 and above, PTFE bronze coated



PN 10 - ART. D140 E • PN 16 - ART. D141 E
PN 25 - ART. D142 E • PN40 - ART. D149 E



**VALVOLA A FARFALLA BIFLANGIATA DOPPIO ECCENTRICO
CON ATTUATORE ELETTRICO MULTIGIRO TRIFASE ON-OFF (AUMA)
DOUBLE FLANGED DOUBLE ECCENTRIC BUTTERFLY VALVE WITH
THREE-PHASE ELECTRIC MULTI-TURNS ACTUATOR ON-OFF (AUMA)**

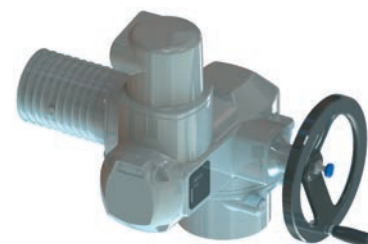


DN	PN	Attuatore Actuator	L	D	H
200	10	SA 07.6	278	55	421
200	16	SA 07.6	278	55	421
200	25	SA 07.6	297	10	474
200	40	SA 07.6	278	55	421
250	10	SA 07.6	278	55	421
250	16	SA 07.6	278	55	421
250	25	SA 07.6	297	10	474
250	40	SA 07.6	299	79	498
300	10	SA 07.6	297	10	474
300	16	SA 07.6	297	10	474
300	25	SA 07.6	299	79	498
300	40	SA 07.6	305	95	539
350	10	SA 07.6	297	10	474
350	16	SA 07.6	300	80	498
350	25	SA 07.6	305	95	539
350	40	SA 07.6	305	120	552
400	10	SA 07.6	300	80	498
400	16	SA 07.6	305	95	539
400	25	SA 07.6	305	120	552
400	40	SA 07.6	320	145	603
450	10	SA 07.6	305	95	539
450	16	SA 07.6	305	95	539
450	25	SA 07.6	320	145	603
450	40	SA 10.2	340	185	638
500	10	SA 07.6	305	95	539
500	16	SA 07.6	305	120	552
500	25	SA 07.6	320	145	603
500	40	SA 10.2	340	185	638
600	10	SA 07.6	305	120	552
600	16	SA 07.6	320	145	603

DN	PN	Attuatore Actuator	L	D	H
600	25	SA 10.2	340	185	638
600	40	SA 10.2	360	230	702
700	10	SA 07.6	320	115	603
700	16	SA 07.6	330	185	636
700	25	SA 10.2	340	185	638
700	40	SA10.2+ad	370	280	780
800	10	SA 10.2	340	185	638
800	16	SA 10.2	340	185	638
800	25	SA 10.2	360	230	702
800	40	SA 14.2	410	280	781
900	10	SA 10.2	340	185	638
900	16	SA 10.2	360	230	702
900	25	SA 14.2	410	280	781
1000	10	SA 10.2	340	185	638
1000	16	SA 10.2	360	230	702
1000	25	SA 14.2	410	280	781
1100	10	SA 10.2	360	230	702
1100	16	SA 14.2	410	280	781
1200	10	SA 10.2	360	230	702
1200	16	SA 14.2	410	280	781
1200	25	SA 14.2	415	310	852
1400	10	SA 14.2	410	280	781
1400	16	SA 14.2	425	360	893
1600	10	SA 14.2	425	360	893
1600	16	SA 14.6	425	360	893
1800	10	SA 14.2	425	360	893
1800	16	SA 14.6	435	430	940
2000	10	SA 14.6	435	430	940
2000	16	SA 14.6	435	430	940



ATTUATORE ELETTRICO MULTIGIRO TRIFASE ON-OFF (AUMA) SA NORM THREE-PHASE ELECTRIC MULTI-TURNS ACTUATOR ON-OFF (AUMA) SA NORM



CARATTERISTICHE STANDARD

Attuatore Multi giro AUMA Norm, Tipo SA 07.6 -14.6

Versione Base

Modulo di Collegamento: Secondo EN ISO 5210 o DIN 3210

Alimentazioni trifase disponibili: 220/50 230/50 240/50 380/50 400/50 415/50 440/60 460/60 480/60 500/50 (Volt / Hz)

Motore: Asincrono Trifase AUMA, CA TENV, isolamento classe F Tropicalizzato, 3 Termostati di protezione motore.

Tipo di Servizio: Classe A, servizio ON OFF, definito in accordo alla EN 15714-2:2007.

Servizio Breve S2 - 15 min. secondo IEC/34 VDE0530.

Gruppo di controllo FC/LC: 1 interruttore di fine corsa per ciascuna posizione di estremità raggiunta APERTO/CHIUSO contatti NO&NC.

1 interruttore per raggiunta coppia di taratura in APERTURA / CHIUSURA contatti NO&NC.

Blinker, indicatore di movimento 1 contatto NC.

Resistenza anticondensa nel comparto interruttori.

Schema di Collegamento: TPA 00R1AA-101-000.

Custodia: IP 68 secondo EN 60529.

Temperatura Ambiente: -30 °C to +80 °C.

Protezione anticorrosive: KS verniciatura a polvere su base poliuretani- ca – categoria classe C4 secondo EN ISO12944-2.

Colore: Standard grigio-argento AUMA (simile a RAL 7037).

Comando Manuale: a volantino per le operazioni di emergenza con pulsante di innesto e dispositivo automatico di disinne- sto.

Collegamento elettrico: Morsettieria multi rapida AUMA tipo presa/spina, con morsetti a vite, 3 imbocchi cavo con filettatura metrica. (1xM20x1,5; 1xM25x1,5; 1xM32x1,5)

Documentazione: Manuale d'uso e manutenzione, schema di collegamento, disegni dimensionali e di ingombro.

Collaudi: test e collaudi in fabbrica, secondo standard del produttore. Per ogni attuatore può essere fornito il relativo certificato di collaudo finale.

STANDARD FEATURE

Multi Turn AUMA Norm SA, Type SA 07.6 -14.6

Basic version

Valve attachment: According to EN ISO 5210 or DIN 3210

Power supply: 220/50 230/50 240/50 380/50 400/50 415/50 440/60 460/60 480/60 500/50 (Volts/Hz).

Motor: AUMA 3-ph AC TENV motor, insulation class F, 3 thermo switches.

Type of duty: Class A, ON OFF duty, designed in accordance with EN 15714-2:2007.

Short Time duty S2 - 15 min rated according to IEC/34 VDE0530

Control unit: 1 NO&NC limit switch each for end positions OPEN/ CLOSED.

1 NO&NC torque switch each for closing and opening direction.

Blinker transmitter for running indication.

Heater.

Terminal plan: TPA 00R1AA-101-000.

Enclosure protection: IP 68 according to EN 60529.

Ambient temperature: -30 °C to +80 °C.

Corrosion protection: KS powder coated – corrosively category class C4 according to EN ISO12944-2.

Colour: AUMA silver-grey (similar to RAL 7037).

Hand wheel: Hand wheel for manual operation.

Electrical connection: AUMA plug/socket connector with screw-type connection.

Documentation: One copy, English language, comprises installation and operation instruction, electric wiring diagram, dimensional drawing and storage instruction.

Inspections and testing: at manufacturer premises, a final inspection record is available on request.

TIPO DI ATTUATORE - ACTUATOR TYPE

DIMENSIONI / DIMENSIONS	SA / SAR 07.6	SA / SAR 10.2	SA / SAR 14.2	SA / SAR 14.6
C1	265	283	389	389
C2	186	191	242	242
C3	63	63	94	94
ØHw	160	200	315	400

Multi-turn actuator			Motor									
Type	Output speed [rpm]	Max. torque [Nm]	Motor type	Nominal power ¹⁾ P _N [kW]	Speed [rpm]	Nominal current ²⁾ I _N [A]	Max. current ³⁾ I _{max} [A]	Starting current I _A [A]	cos φ	Overcurr. prot. device setting [A]	AUMA power class for switchgear	
SA 07.2	4	30	VD00063-4-0,02	0.02	1,400	0.4	0.4	1.0	0.40	0.4	A1	B1
	5.6					0.4	0.4	1.0	0.40	0.4	A1	B1
	8		VD00063-4-0,04	0.04	1,400	0.4	0.4	1.0	0.50	0.4	A1	B1
	11					0.4	0.5	1.0	0.50	0.5	A1	B1
	16		VD00063-2-0,06	0.06	2,800	0.6	0.6	1.9	0.42	0.6	A1	B1
	22					0.6	0.7	1.9	0.42	0.7	A1	B1
	32		AD00063-4-0,10	0.10	1,400	1.0	1.0	2.4	0.42	1.0	A1	B1
	45					1.0	1.0	2.4	0.42	1.0	A1	B1
	63		AD00063-2-0,20	0.20	2,800	0.8	1.2	4.4	0.60	1.2	A1	B1
	90					0.8	1.3	4.4	0.60	1.3	A1	B1
SA 07.6	125	25	AD00063-2-0,30	0.30	2,800	0.9	1.6	4.4	0.70	1.6	A1	B1
	180					0.9	1.7	4.4	0.70	1.7	A1	B1
	4		VD00063-4-0,03	0.03	1,400	0.4	0.5	1.0	0.43	0.5	A1	B1
	5.6					0.4	0.5	1.0	0.43	0.5	A1	B1
	8		VD00063-4-0,06	0.06	1,400	0.6	0.7	1.6	0.38	0.7	A1	B1
	11					0.6	0.7	1.6	0.38	0.7	A1	B1
	16		VD00063-2-0,12	0.12	2,800	0.7	0.9	3.0	0.52	0.9	A1	B1
	22					0.7	1.0	3.0	0.52	1.0	A1	B1
	32		AD00063-4-0,20	0.20	1,400	1.6	1.9	4.6	0.42	1.9	A1	B1
	45					1.6	2.0	4.6	0.42	2.0	A1	B1
SA 10.2	63	60	AD00063-2-0,40	0.40	2,800	1.8	2.3	9.0	0.53	2.3	A1	B1
	90					1.8	2.5	9.0	0.53	2.5	A1	B1
	125		AD00063-2-0,50	0.50	2,800	1.9	3.0	9.0	0.62	3.0	A1	B1
	180					1.9	3.2	9.0	0.62	3.2	A1	B1
	4		VD00071-4-0,06	0.06	1,400	0.5	0.6	2.0	0.40	0.6	A1	B1
	5.6					0.5	0.6	2.0	0.40	0.6	A1	B1
	8		VD00071-4-0,12	0.12	1,400	1.0	1.1	3.0	0.40	1.1	A1	B1
	11					1.0	1.2	3.0	0.40	1.2	A1	B1
	16		VD00071-2-0,25	0.25	2,800	1.3	1.5	4.5	0.52	1.5	A1	B1
	22					1.3	1.8	4.5	0.52	1.8	A1	B1
SA 14.2	32	120	AD00071-4-0,40	0.40	1,400	2.5	2.6	8.5	0.42	2.6	A1	B1
	45					2.5	3.0	8.5	0.42	3.0	A1	B1
	63		AD00071-2-0,70	0.70	2,800	3.0	4.0	16	0.54	4.0	A1	B1
	90					3.0	4.5	16	0.54	4.5	A1	B1
	125		AD00071-2-1,00	1.00	2,800	3.5	5.4	16	0.64	5.4	A1	B1
	180					3.5	6.0	16	0.64	6.0	A1	B1
	4		VD00090-4-0,12	0.12	1,400	0.5	0.8	2.8	0.60	0.8	A1	B1
	5.6					0.5	1.0	2.8	0.60	1.0	A1	B1
	8		VD00090-4-0,25	0.25	1,400	1.0	1.6	5.2	0.60	1.6	A1	B1
	11					1.0	1.7	5.2	0.60	1.7	A1	B1
SA 14.6	16	250	VD00090-2-0,45	0.45	2,800	1.5	3.0	9.0	0.64	3.0	A1	B1
	22					1.5	3.5	9.0	0.64	3.5	A1	B1
	32		AD00090-4-0,75	0.75	1,400	2.6	4.3	16	0.62	4.3	A1	B1
	45					2.6	5.0	16	0.62	5.0	A1	B1
	63		AD00090-2-1,40	1.40	2,800	4.7	7.6	38	0.60	7.6	A2	B2
	90					4.7	9.0	38	0.60	9.0	A2	B2
	125		AD00090-2-1,80	1.80	2,800	5.3	12	38	0.65	11	A2	B2
	180					5.3	12	38	0.65	11	A2	B2
	4	500	VD00090-4-0,20	0.20	1,400	0.9	1.5	5.2	0.54	1.5	A1	B1
	5.6					0.9	1.7	5.2	0.54	1.7	A1	B1
	8		VD00090-4-0,40	0.40	1,400	1.8	3.0	9.3	0.56	3.0	A1	B1
	11					1.8	3.5	9.3	0.56	3.5	A1	B1
	16		VD00090-2-0,80	0.80	2,800	3.6	5.0	18	0.51	5.0	A1	B1
	22					3.6	5.5	18	0.51	5.5	A1	B1
	32		AD00090-4-1,60	1.60	1,400	5.3	7.5	38	0.57	7.5	A2	B2
	45					5.3	9.0	38	0.57	9.0	A2	B2
	63		AD00090-2-3,00	3.00	2,800	9.0	14	68	0.60	14	A2	B3
	90					9.0	16	68	0.60	16	A2	B3
SA 16.2	125	800	AD00090-2-3,30	3.30	2,800	9.5	21	68	0.65	21	A2	B3
	180					9.5	22	68	0.65	22	A2	B3
	4		VD00112-4-0,40	0.40	1,400	1.4	2.7	10	0.65	2.7	A1	B1
	5.6					1.4	2.9	10	0.65	2.9	A1	B1
	8		VD00112-4-0,80	0.80	1,400	3.0	5.2	22	0.57	5.2	A1	B2
	11					3.0	5.5	22	0.57	5.5	A1	B2
	16		VD00112-2-1,50	1.50	2,800	5.6	9.0	40	0.60	9.0	A2	B2
	22					5.6	11	40	0.60	11	A2	B2
	32		AD00112-4-3,00	3.00	1,400	8.5	15	60	0.71	15	A2	B3
	45					8.5	17	60	0.71	17	A2	B3
	63		AD00112-2-5,00	5.00	2,800	12	25	114	0.80	25	A2	–
	90					12	30	114	0.80	25	A2	–
SA 16.2	125		AD00112-2-6,00	6.00	2,800	14	35	114	0.83	25	A2	–
	180					14	45	114	0.83	25	A2	–

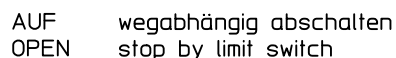
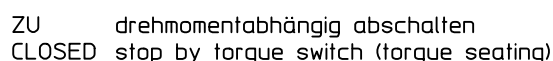
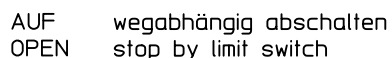
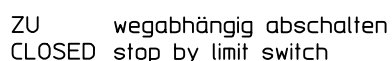
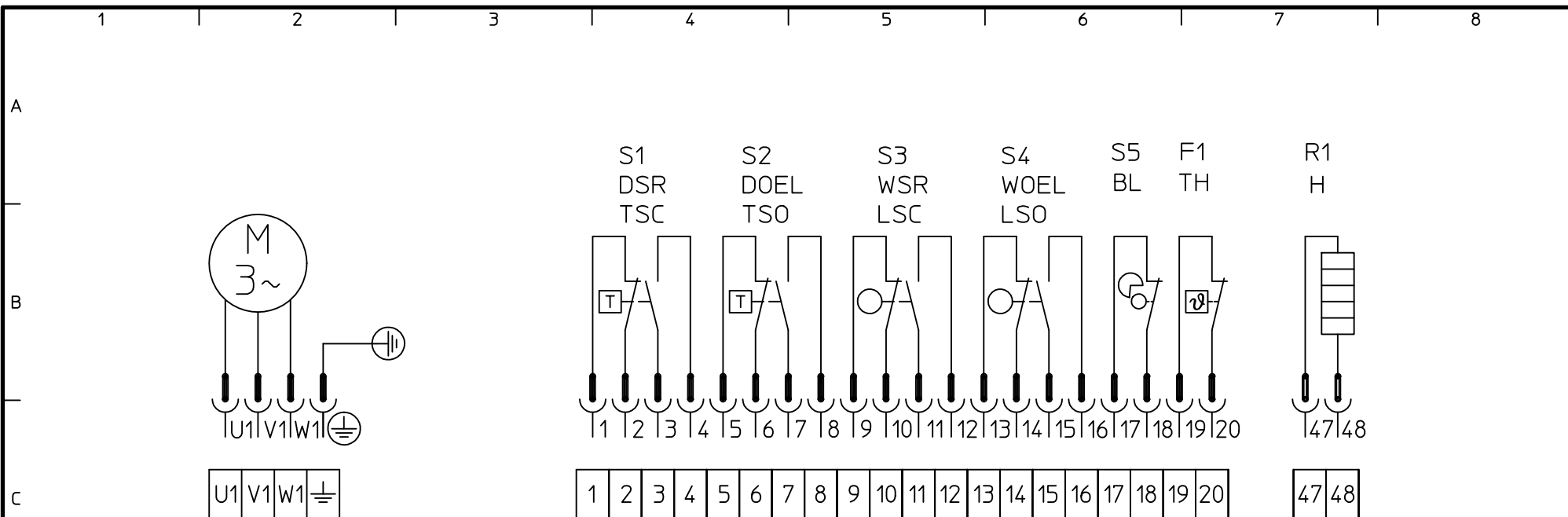
1) – 3) Refer to Notes on Electrical data SA .2/SAR .2 multi-turn actuators with 3-phase AC motors

We reserve the right to alter data according to improvements made. Previous documents become invalid with the issue of this document.

Installation and sizing																																													
Motor data	Motor data is approximate. Due to usual manufacturing tolerances, there may be deviations from the values given.																																												
Motor protection	To protect against overheating, thermostats or PTC thermistors are embedded in the motor windings. Actuators without integral actuator controls (AUMA NORM): Thermostats or PTC thermistors have to be considered within the external controls (refer to terminal plan). Note: Failure to connect thermostats or PTC thermistors shall void the warranty for the motor. Rating of the thermostats <table><tr><th colspan="2">AC current</th><th colspan="2">DC current</th></tr><tr><td colspan="2">250 V, 50 – 60 Hz</td><td>60 V</td><td>1.0 A</td></tr><tr><td>cos φ = 1</td><td>2.5 A</td><td>42 V</td><td>1.2 A</td></tr><tr><td>cos φ = 0.6</td><td>1.6 A</td><td>24 V</td><td>1.5 A</td></tr></table> Actuators with AM or AC integral actuator controls: Thermal motor protection is already integrated.			AC current		DC current		250 V, 50 – 60 Hz		60 V	1.0 A	cos φ = 1	2.5 A	42 V	1.2 A	cos φ = 0.6	1.6 A	24 V	1.5 A																										
AC current		DC current																																											
250 V, 50 – 60 Hz		60 V	1.0 A																																										
cos φ = 1	2.5 A	42 V	1.2 A																																										
cos φ = 0.6	1.6 A	24 V	1.5 A																																										
Mains voltage, mains frequency	Permissible variation of mains voltage: ±10 % Permissible variation of mains frequency: ±5 %																																												
Switchgear sizing	For motor operation, reversing contactors (mechanically, electrically and electronically locked) or thyristors (electronically locked) can be used. Actuators without integral actuator controls (AUMA NORM): Switchgear are supplied by the customer. We recommend specification of switchgear suitable for their rated operating power/motor power in compliance with the assigned AUMA power class. Switchgear assignment to AUMA power classes: <table><tr><th>AUMA power class</th><th>Reversing contactor Rated operating power acc. to EN 60947-4-1 Utilization category AC-3</th><th colspan="2">Reversing contactor Motor power according to UL/CSA at</th></tr><tr><td></td><td>400 V AC</td><td>480 V AC</td><td>600 V AC</td></tr><tr><td>A1</td><td>4.0 kW</td><td>5.0 hp</td><td>5.0 hp</td></tr><tr><td>A2</td><td>7.5 kW</td><td>10 hp</td><td>10 hp</td></tr><tr><td>A3</td><td>15 kW</td><td>20 hp</td><td>25 hp</td></tr><tr><td>A4</td><td>30 kW</td><td>60 hp</td><td>60 hp</td></tr><tr><td>A5</td><td>55 kW</td><td>75 hp</td><td>100 hp</td></tr><tr><td>A6</td><td>75 kW</td><td>100 hp</td><td>125 hp</td></tr></table> <table><tr><th>AUMA power class</th><th>Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a</th></tr><tr><td></td><td>400 V AC</td></tr><tr><td>B1</td><td>6 A</td></tr><tr><td>B2</td><td>8.5 A</td></tr><tr><td>B3</td><td>16 A</td></tr></table> Actuators with AM or AC integral actuator controls: Required switchgear in power classes A1 – A3 or B1 – B3 are already integrated in AM or AC actuator controls. For switchgear of power classes A4 – A6, a control box is additionally required. For actuators with AM integral actuator controls and installed switchgear in AUMA power class A3, an optional thermal overcurrent protection device cannot be directly integrated within the AM. A control box is additionally required. However, AC actuator controls can be used instead of AM actuator controls. When opting for AC actuator controls, the additional control box can be omitted.			AUMA power class	Reversing contactor Rated operating power acc. to EN 60947-4-1 Utilization category AC-3	Reversing contactor Motor power according to UL/CSA at			400 V AC	480 V AC	600 V AC	A1	4.0 kW	5.0 hp	5.0 hp	A2	7.5 kW	10 hp	10 hp	A3	15 kW	20 hp	25 hp	A4	30 kW	60 hp	60 hp	A5	55 kW	75 hp	100 hp	A6	75 kW	100 hp	125 hp	AUMA power class	Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a		400 V AC	B1	6 A	B2	8.5 A	B3	16 A
AUMA power class	Reversing contactor Rated operating power acc. to EN 60947-4-1 Utilization category AC-3	Reversing contactor Motor power according to UL/CSA at																																											
	400 V AC	480 V AC	600 V AC																																										
A1	4.0 kW	5.0 hp	5.0 hp																																										
A2	7.5 kW	10 hp	10 hp																																										
A3	15 kW	20 hp	25 hp																																										
A4	30 kW	60 hp	60 hp																																										
A5	55 kW	75 hp	100 hp																																										
A6	75 kW	100 hp	125 hp																																										
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B1	6 A																																												
B2	8.5 A																																												
B3	16 A																																												

Notes on Electrical data SA .2/SAR .2 multi-turn actuators with 3-phase AC motors	
1) Nominal power P_N	Mechanical power output at motor shaft at run torque of multi-turn actuator (corresponds to approx. 35 % of maximum torque). The consumed electrical power can be calculated using the following formula: $P = U \times I \times \cos \varphi \times \sqrt{3}$
2) Nominal current I_N	Current at run torque at approx. 35 % of maximum torque
3) Max. current I_{max}	Current at maximum torque

Für diese Zeichnung gelten die Bestimmungen über den Schutz für Urheberrecht.



Schalterabwicklung / Switch development				
Schalter/ Switch	Kontakt/ Contact	0% ZU CLOSE	100% AUF OPEN	
S1 DSR/TSC	Öffner/ NC Schließer/ NO			
S2 D0EL/TS0	Öffner/ NC Schließer/ NO			
S3 WSR/LSC	Öffner/ NC Schließer/ NO			
S4 W0EL/LS0	Öffner/ NC Schließer/ NO			

Schalterabwicklung / Switch development				
Schalter/ Switch	Kontakt/ Contact	0% ZU CLOSE	100% AUF OPEN	
S1 DSR/TSC	Öffner / NC Schließer / NO	— —	— — — — —	— — — — —
S2 DÖEL/TSO	Öffner / NC Schließer / NO	— —	— — — — —	— — — — —
S3 WSR/LSC	Öffner / NC Schließer / NO	— —	— — — — —	— — — — —
S4 WÖEL/LSO	Öffner / NC Schließer / NO	— —	— — — — —	— — — — —

————— = Kontakt geschlossen / Contact closed
 — — — — — = Kontakt offen / Contact open

S1	DSR/ TSC	Drehmomentschalter, Schließen, Rechtslauf / Torque switch, closing, clockwise rotation
S2	DOEL/ TSO	Drehmomentschalter, Öffnen, Linkslauf / Torque switch, opening, counter-clockwise rotation
S3	WSR/ LSC	Wegschalter, Schließen, Rechtslauf / Limit switch, closing, clockwise rotation
S4	WOEL/ LSO	Wegschalter, Öffnen, Linkslauf / Limit switch, opening, counter-clockwise rotation
S5	BL	Blinkgeber / Blinker transmitter
F1	TH	Thermoschalter / Thermostwitches
R1	H	Heizung / Heater

Anschlußplan zeigt den Stellantrieb in Zwischenstellung, Schalter sind nicht betätigt.
Terminal plan shows the actuator in intermediate position, switches are not actuated.

Bei Ex-Antrieben werden an Stelle der Stecker Schraubklemmen/Käfigzugfederklemmen verwendet !
For explosion-proof actuators terminals/cage clamps are used instead of plug/socket connector !

				Datum	2013-07-17	 AUMA Riester GmbH & Co. KG	TPA00R1AA-101-000		
				Bearb.	Montoire		Legende	Auftragsnummer	Bestellnummer
01	799/09	2009-12-08	Mey	Gepr.	Montoire				
Zust.	Änderung	Datum	Name	Norm	Montoire				