



1st stage automatic change-over decompression station (Q = 40 Nm³/h)

IDENTIFICATION

- ▶ 1st stage pneumatic change-over decompression station for medical gas distribution, max flow rate 40 Nm³/h
- ▶ Pressure monitoring by means of pressure transducers or pressure switches (optional)
- ▶ Working source sensor integrated into the automatic change-over
- ▶ Provision for integration of alarm module in IP56 cabinet
- ▶ Mounted on painted AISI 430 stainless steel frame
- ▶ Cover panel with window for constant monitoring of line pressure gauge and alarm module
- ▶ Laser-marking plate indicating production lot and product code



CE MARKING

Notified body: 0426
CE marking in risk class II B, according to Directive 93/42/EEC

REFERENCE STANDARD

ISO 10524-2: "Pressure regulators for use with medical gases - Part 2: Manifold and line pressure regulators"

ISO 7396-1: "Medical gas pipeline systems - Part 1: Pipeline systems for compressed medical gases and vacuum"

ISO 15001: "Anaesthetic and respiratory equipment. Compatibility with oxygen"

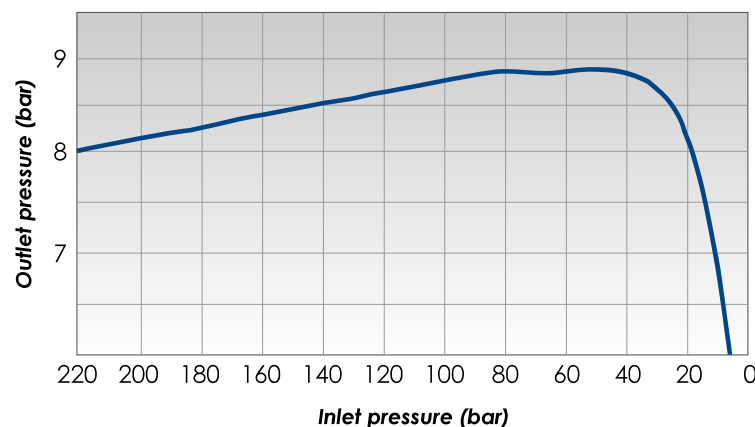
* Validity of the standards is referred to the current year



- ▶ Pressure regulator maximum flow rate: 40 Nm³/h
- ▶ Inlet connections: W 21.7 x 1/14" male
- ▶ Maximum inlet pressure: 220 bar
- ▶ Outlet pressure: 8 ÷ 10 bar
- ▶ Outlet connection: Ø=16x1mm copper pipe
- ▶ Change-over Δp for automatic switching of sources: 2.0 ± 0.2 bar

- ▶ Safety valve opening pressure: 14 bar
- ▶ Storage and working temperature: -20 °C ÷ +60 °C
- ▶ Inlet pressure gauges precision class and scale: 2.5; 0 ÷ 315 bar (0 ÷ 160 bar for N₂O and CO₂)
- ▶ Outlet pressure gauges precision class and scale: 2.5; 0 ÷ 16 bar
- ▶ Inlet degree of filtration: ≤ 24 μm

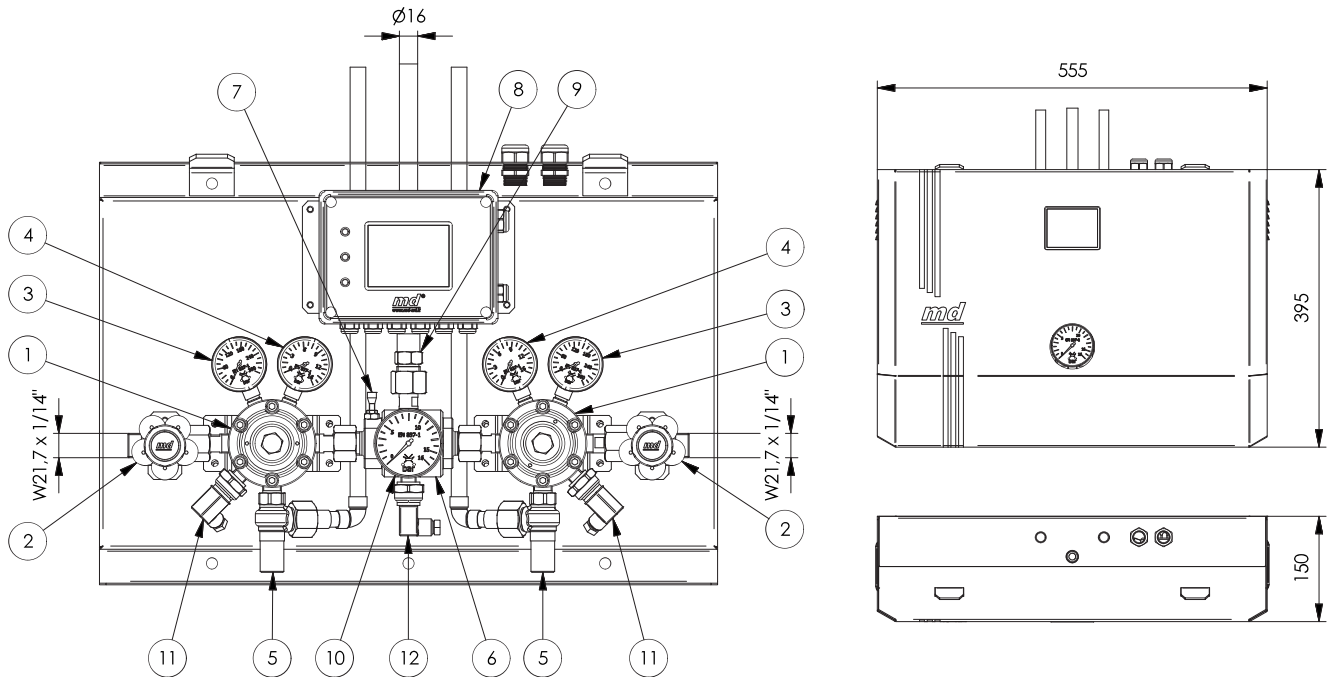
1ST STAGE REGULATOR PRESSURE CHARACTERISTIC, Q₁ = 40 Nm³/h





1st stage automatic change-over decompression station (Q = 40 Nm³/h)

DIMENSIONS



KEY:

- | | |
|---|---|
| 1. Pressure regulator | 8. (optional) TFT or LED alarm module |
| 2. Hp inlet valve | 9. Fitting for outgoing pipe welding |
| 3. High pressure gauge | 10. Line pressure gauge |
| 4. Low pressure gauge | 11. (optional) HP source pressure transducer or pressure switch |
| 5. Safety valve with outlet fitting for Ø=14mm pipe welding | 12. (optional) Line pressure transducer or pressure switch |
| 6. Automatic change-over | |
| 7. Working manifold sensor | |

CODE	GAS	OPTIONS			PACKAGING		
		PRESSURE TRANSDUCER		PRESSURE SWITCH	type	cm	kg
		CODE	SCALE	CODE			
PF-5121-00O2	O ₂	KT-2210-0250	0-250 bar	KT-2200-HWA1	box	60 x 45 x 20	18
PF-5121-00AC	Air	KT-2210-0250	0-250 bar	20 bar calibration	box	60 x 45 x 20	18
PF-5121-0N2O	N ₂ O	KT-2210-0100	0-100 bar	KT-2200-HWB2	box	60 x 45 x 20	18
PF-5121-0CO2	CO ₂	KT-2210-0100	0-100 bar	11 bar calibration	box	60 x 45 x 20	18





High pressure flexible connections

IDENTIFICATION

- ▶ Flexible pigtail pipe for connection between cylinders and cylinder manifolds
- ▶ Flexible pigtail pipe for connection between cylinder manifolds, decompression stations and HP purge valves
- ▶ Gas-specific threaded inlet fitting in compliance with national standards
- ▶ Laser-marking of gas, production lot and product code



CE MARKING

Notified body: 0426
CE marking in risk class II B in accordance with Legislative Decree 24 February 1997, no. 46 "Implementation of Directive 93/42/EEC, concerning Medical Devices" and further modifications



REFERENCE STANDARD

ISO 21969: "High-pressure flexible connections for use with medical gas systems"

ISO 7396-1: "Medical gas pipeline systems - Part 1: Pipeline systems for compressed medical gases and vacuum"

HTM 02-01: "Medical gas pipeline systems"

ISO 15001: "Anaesthetic and respiratory equipment. Compatibility with oxygen"

* Validity of the standards is referred to the current year

- ▶ Gases: Oxygen, Air, N₂O, CO₂
- ▶ Storage and working temperature: -20 °C ÷ +60 °C
- ▶ Test pressure: 220 bar
- ▶ Cylinder pigtails pipe diameter: Ø= 8 x 2 mm
- ▶ HP flexible connection pipe: Ø= 10 x 2.5 mm

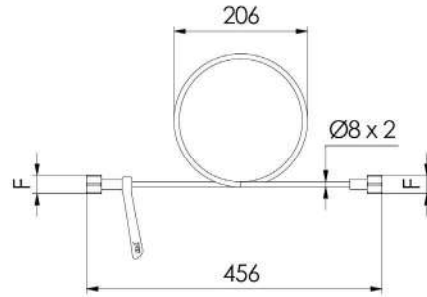




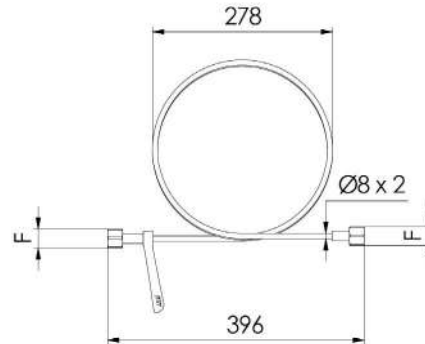
High pressure flexible connections

DIMENSIONS

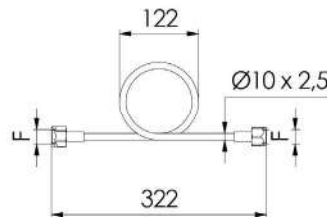
CYLINDER PIGTAILS PF-40UF-0yyy



CYLINDER PIGTAILS PF-40UF-2yyy



HP FLEXIBLE CONNECTION FOR MANIFOLD- DECOMPRESSION UNIT PF-40UT-0000



CODE	TYPE	GAS	CONNECTIONS		PERFORMANCE		PACKAGING		
			THREAD	REFERENCE STANDARD	WORKING PRESSURE bar	FLOW RATE/ PRESSURE DROP*	type	kg	
PF-40UF-0002	Pigtail	O ₂	W 21,7 x 1/14" F copper gasket	UNI 11144	200	5 m ³ /h 20 kPa	bag	0.7	
PF-40UF-00AC	Pigtail	Air	W 30 x 1/14" F copper gasket	UNI 11144	200	5 m ³ /h 20 kPa			
PF-40UF-0N2O	Pigtail	N ₂ O	G 3/8" F copper gasket	UNI 11144	60	5 m ³ /h 20 kPa			
PF-40UF-0CO2	Pigtail	CO ₂	W 27 x 2 F NBR 70 o-ring	ISO 5145	60	5 m ³ /h 20 kPa			
PF-40UF-000N	Pigtail	N	W 21,7 x 1/14" M copper gasket	UNI 11144	200	5 m ³ /h 20 kPa			
PF-40UF-2002	Pigtail L= 2 m	O ₂	W 21,7 x 1/14" F copper gasket	UNI 11144	200	5 m ³ /h 20 kPa			1.1
PF-40UF-20AC	Pigtail L= 2 m	Air	W 30 x 1/14" F copper gasket	UNI 11144	200	5 m ³ /h 40 kPa			
PF-40UF-2N2O	Pigtail L= 2 m	N ₂ O	G 3/8" F copper gasket	UNI 11144	60	5 m ³ /h 40 kPa			
PF-40UT-0000	HP flexible connection	all gases	W 21,7 x 1/14" F copper gasket	-	200	50 m ³ /h 80 kPa			0.6

* Pressure drop measured at 1500 kPa pressure and @ specified flow rate, in compliance with reference standard ISO 21969, par. 6.2.5





DENTIFICATION

- ▶ Cylinder manifolds for connection of high pressure gas sources to the decompression station
- ▶ Modular racks from one to five cylinder seats
- ▶ Cylinders shut-off valves with non-return system (check valve)
- ▶ Galvanized and painted sheet metal frame
- ▶ Gas specific laser-marked plate indicating production lot and product code

CE MARKING

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REFERENCE STANDARD

ISO 7396-1: "Medical gas pipeline systems - Part 1: Pipeline systems for compressed medical gases and vacuum"

HTM 02-01: "Medical gas pipeline systems"

ISO 15001: "Anaesthetic and respiratory equipment. Compatibility with oxygen"

* Validity of the standards is referred to the current year

- ▶ Gases: Oxygen, Air, N₂O, CO₂
- ▶ Storage and working temperature: -20 °C ÷ +60 °C
- ▶ Test pressure: 220 bar

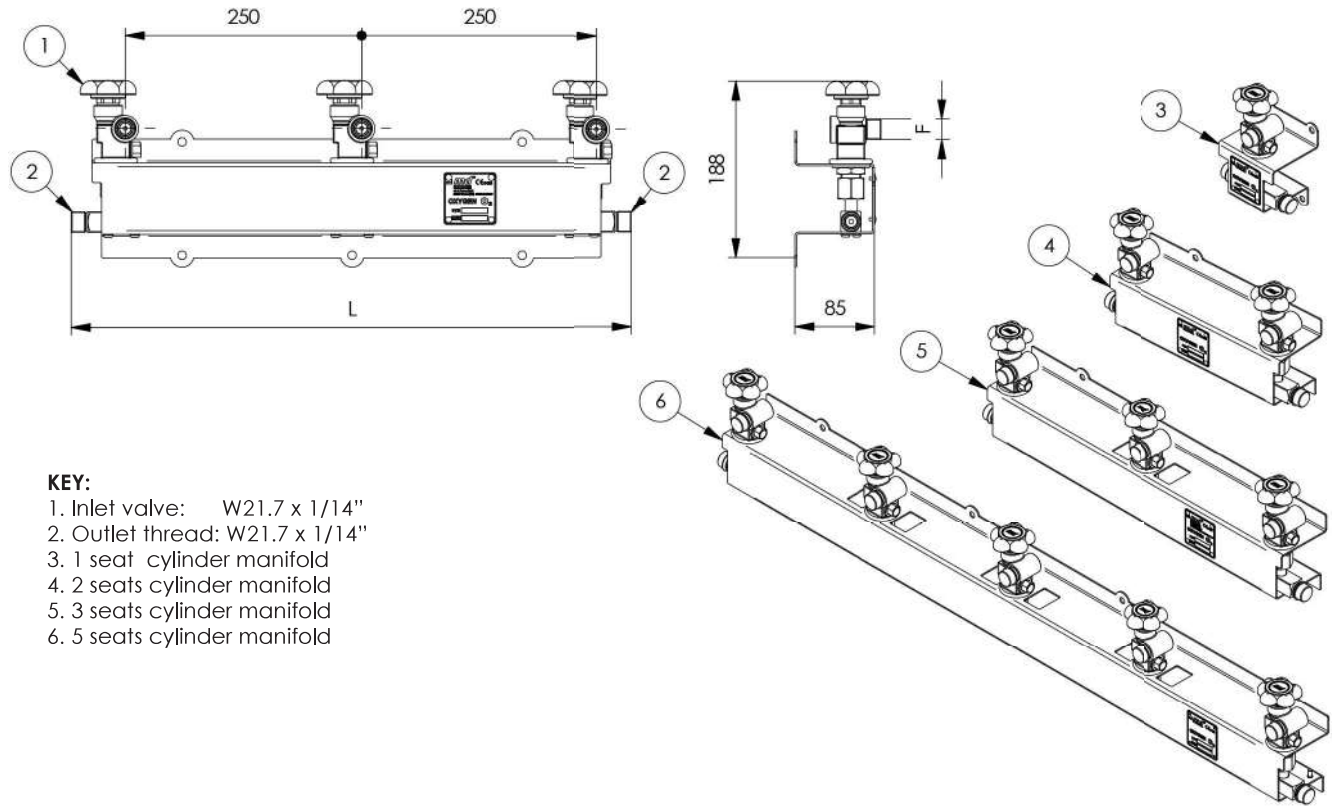
- ▶ Manifold pipe diameter: Ø=10 x 2.5 mm
- ▶ Cylinder manifolds inlet couplings: gas-specific
- ▶ Cylinder manifolds inlet/outlet fitting: W 21.7 x 1/14"





High pressure manifolds

DIMENSIONS



KEY:

- 1. Inlet valve: W21.7 x 1/14"
- 2. Outlet thread: W21.7 x 1/14"
- 3. 1 seat cylinder manifold
- 4. 2 seats cylinder manifold
- 5. 3 seats cylinder manifold
- 6. 5 seats cylinder manifold

CODE	GAS	DIMENSIONS		CONNECTIONS		WORKING PRESSURE bar	PACKAGING		
		NUMBER OF SEATS	L mm	THREAD	REFERENCE STANDARD		type	cm	kg
PF-42U1-00O2	O ₂	1	120	W21,7 x 1/14"	UNI 11144	200	box	11 X 22 X 16	2.0
PF-42U1-00AC	Air			W30 x 1/14"	UNI 11144	200			
PF-42U1-0N2O	N ₂ O			G 3/8"	UNI 11144	60			
PF-42U1-0CO2	CO ₂			W27 x 2	ISO 5145	60			
PF-42U2-00O2	O ₂	2	344	W21,7 x 1/14"	UNI 11144	200			
PF-42U2-00AC	Air			W30 x 1/14"	UNI 11144	200			
PF-42U2-0N2O	N ₂ O			G 3/8"	UNI 11144	60			
PF-42U2-0CO2	CO ₂			W27 x 2	ISO 5145	60			
PF-42U3-00O2	O ₂	3	594	W21,7 x 1/14"	UNI 11144	200		11 X 22 X 65	6.0
PF-42U3-00AC	Air			W30 x 1/14"	UNI 11144	200			
PF-42U3-0N2O	N ₂ O			G 3/8"	UNI 11144	60			
PF-42U3-0CO2	CO ₂			W27 x 2	ISO 5145	60			
PF-42U5-00O2	O ₂	5	1094	W21,7 x 1/14"	UNI 11144	200	11 X 22 X 115	8.0	
PF-42U5-00AC	Air			W30 x 1/14"	UNI 11144	200			
PF-42U5-0N2O	N ₂ O			G 3/8"	UNI 11144	60			
PF-42U5-0CO2	CO ₂			W27 x 2	ISO 5145	60			





High pressure accessories



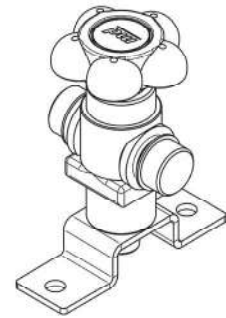
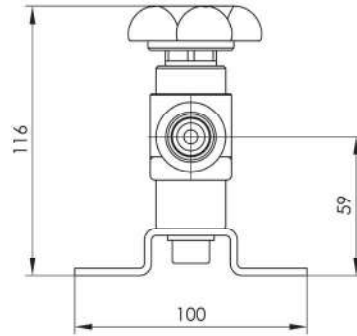
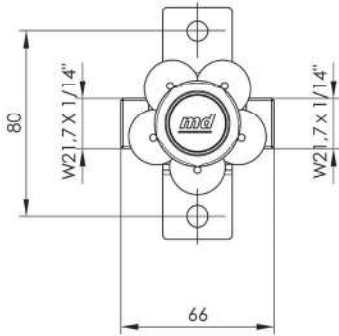
IDENTIFICATION

- ▶ Shut-off valve with spindle seal
- ▶ Inlet and outlet connection fitting: W 21.7 x 1/14" male
- ▶ Degreased for use with oxygen in compliance with ISO 15001
- ▶ Working pressure: P= 200 bar
- ▶ Available with fitting for pipe welding on inlet and outlet sides Ø 10 mm or Ø 13 mm (optional)
- ▶ Wall bracket

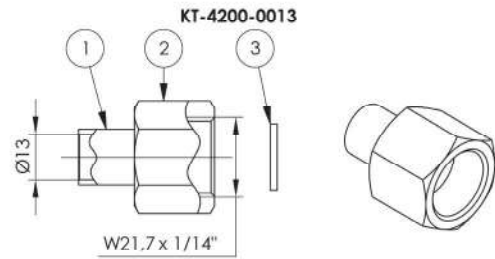
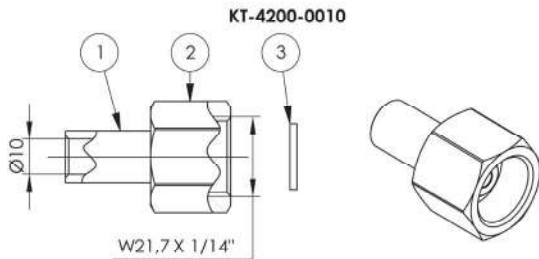


DIMENSIONS

HP SHUT-OFF VALVE



FITTINGS FOR PIPE WELDING



KEY:

1. Fitting for pipe welding
2. Nut
3. Copper gasket

HP SHUT-OFF VALVE

CODE	DESCRIPTION	GAS	INLET/OUTLET FITTINGS	WORKING PRESSURE bar	PACKAGING	
					type	kg
PF-4200-00EV	HP shut-off valve	All gases	W21.7 x 1/14"	200	bag	0.7

FITTINGS FOR PIPE WELDING

CODE	DESCRIPTION	PIPE Ø	WORKING PRESSURE bar	PACKAGING	
				type	kg
KT-4200-0010	Ø10 pipe welding kit (fitting, nut and gasket)	Ø10	200	bag	0.12
KT-4200-0013	Ø13 pipe welding kit (fitting, nut and gasket)	Ø13	200	bag	0.10





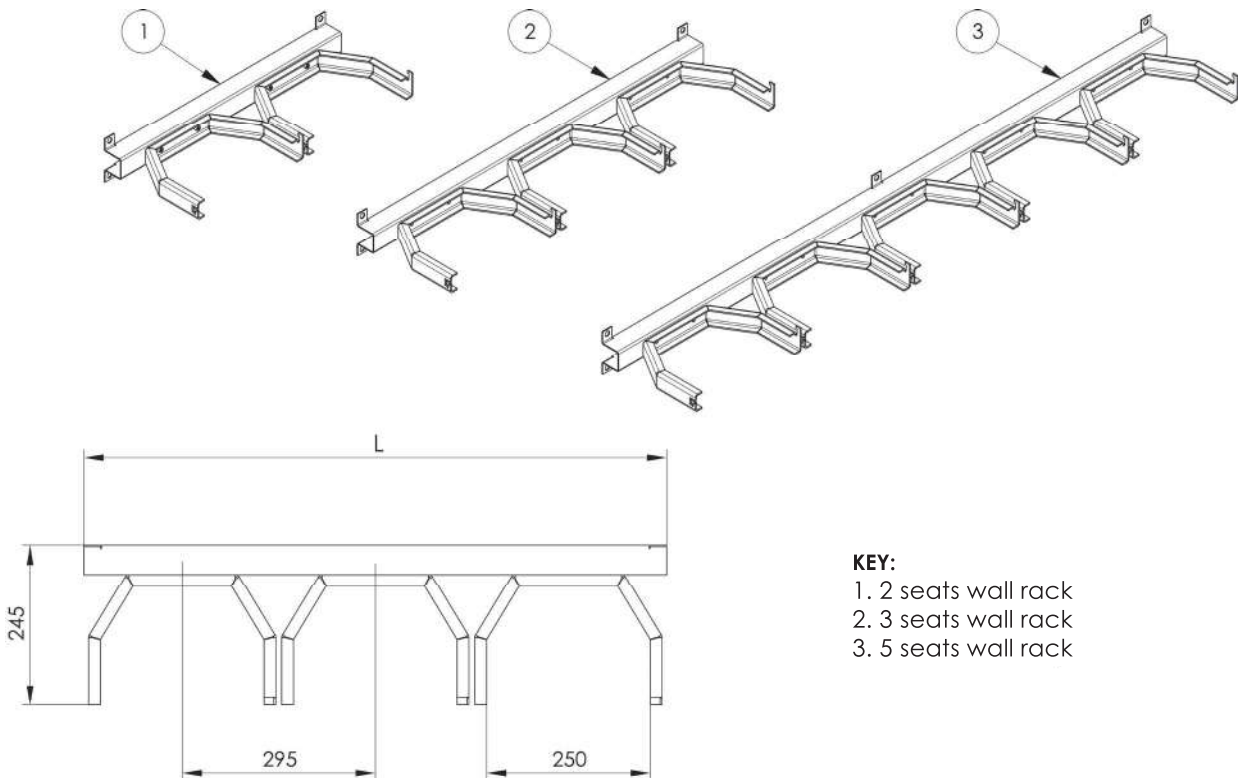
Cylinders racks



IDENTIFICATION

- ▶ Wall rack for holding gas cylinders
- ▶ Modular layout of elements; customization of number of cylinder seats (on request)
- ▶ Cold zinc coating for outdoor applications
- ▶ Chains for fastening cylinders in vertical position
- ▶ C section profile with holes for secure wall fixing

DIMENSIONS



KEY:

- 1. 2 seats wall rack
- 2. 3 seats wall rack
- 3. 5 seats wall rack

CODE	# OF CYLINDERS	L mm	PACKAGING	
			type	kg
PF-3902-0000	2	570	bag	3.2
PF-3903-0000	3	865	bag	4.7
PF-3905-0000	5	1480	bag	7.7





High pressure manifolds application for cylinder groups



IDENTIFICATION

- ▶ Cylinder manifolds for connection of 2 high pressure gas sources
- ▶ Flag-styled brackets for wall fastening
- ▶ Cylinders shut-off valves with non-return system (check valve)
- ▶ Threaded inlets of specific gas valves according to national
- ▶ Support frame in painted steel
- ▶ Laser-marked plate indicating production lot and product code

CE MARKING

Notified body: 0426

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REFERENCE STANDARD

ISO 7396-1: "Medical gas pipeline systems - Part 1: Pipeline systems for compressed medical gases and vacuum"

ISO 15001: "Anaesthetic and respiratory equipment. Compatibility with oxygen"

* Validity of the standards is referred to the current year

- ▶ Gases: Oxygen, Air, Medical Air
- ▶ Storage and working temperature: -20 °C ÷ +60 °C
- ▶ Test pressure: 220 bar

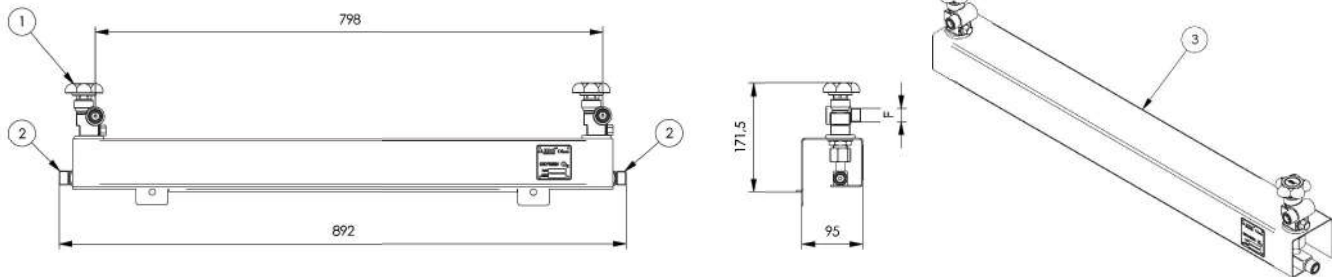
- ▶ Manifold pipe diameter: $\varnothing=10 \times 2.5$ mm
- ▶ Cylinder manifolds inlet couplings: gas-specific
- ▶ Cylinder manifolds inlet/outlet fitting : W 21.7 x 1/14"





High pressure manifolds & application for cylinder groups

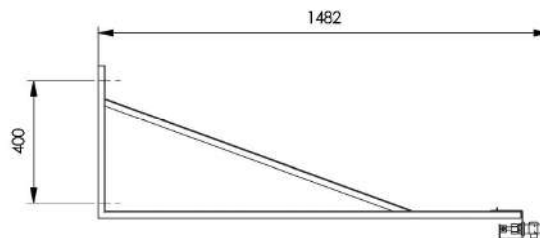
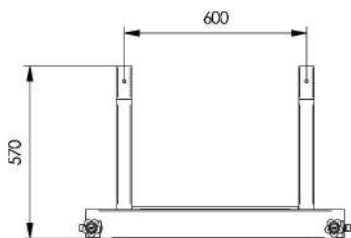
DIMENSIONS



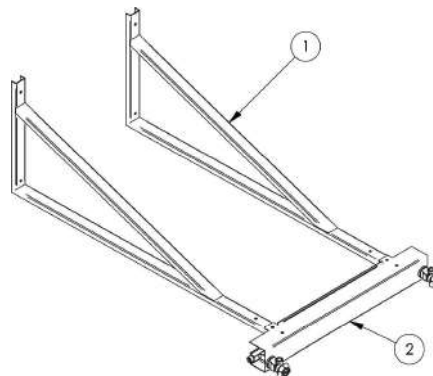
- KEY:**
- 1. Inlet valve with gas specific coupling
 - 2. Outlet thread W21.7 x 1/14"
 - 3. 2 sources manifold gas cylinders

HIGH PRESSURE GAS MANIFOLDS – APPLICATION FOR CYLINDERS GROUPS

CODE	GAS	NUMBER OF SEATS #	INLET		WORKING PRESSURE bar	PACKAGING		
			INLET / OUTLET FITTINGS F	REFERENCE STANDARD		type	cm	kg
PF-42U2-10O2	O ₂	2	W 21,7 x 1/14"	UNI 11144	200	box	11 X 22 X 115	6
PF-42U2-10AC	Air		W 30 x 1/14"					



- KEY:**
- 1. Flag-styled brackets
 - 2. 2 seats manifold for cylinders groups



KIT FLAG STYLED BRACKETS

CODE	PACKAGING	
	type	kg
KT-4202-3000	bag	12

EXTENSION KIT FLAG STYLED BRACKETS

CODE	PACKAGING	
	type	kg
KT-4202-3001	bag	4

