

## Medical Gas Line Pressure Regulator Duplex and Simplex Pressure Reducing Sets (MPR)

### Pressure Reducing Sets

The BeaconMedaes Pressure Reducing Set shall conform to EN ISO7396-1 and NHS Health Technical Memorandum HTM02-01(duplex model).

The Duplex Pressure Reducing Sets are required when dual pipeline systems are supplied by one medical air supply system. Surgical air is typically delivered at pressures of 800 kPa (8 bar) or 1100 kPa (11bar) gauge for supply of the hospital surgical air systems. Medical air is typically delivered at pressures of 400 kPa (4 bar) gauge for supply of the hospital medical air systems. Medical oxygen is typically delivered at pressures of 400 kPa (4 bar) gauge for supply of the hospital medical oxygen systems. Sets shall be sized with nominal pipe sizes of 15 mm, 22 mm and 28 mm, sized for different flow rate capacities. All components shall be mounted on a powder coated steel back plate for simple installation.

The Duplex Pressure Reducing Set shall be positioned between the medical gas supply system and distribution system. Duplex sets shall be wall mounted and positioned in the plant room along with the medical air supply system. Pressure Reducing Sets shall be sized for an inlet pressure of 700 kPa (7 bar) or 1100 kPa (11 bar) with an outlet pressure of 400 kPa (4 bar) or 800 kPa (8 bar), suitable to supply the medical air pipeline system.

The entire system shall be 'duplexed' such that any single functional component failure will not affect the integrity of the medical air and oxygen supply.

When high pressure surgical air pipelines are installed, Simplex Pressure Reducing Sets shall be used to reduce the nominal air pressure from typically 700 kPa (7 bar) or 1100 kPa (11 bar) gauge to 400 kPa (4 bar) or 800 kPa (8 bar). Simplex sets shall be mounted in the ceiling void and fixed via a suspended drop rod and brass munsen ring either side of the regulating unit (provided by others). Pressure reducing sets shall be positioned at the entrance to the department, either just before or just after the AVSU.

Both Duplex and Simplex Pressure Reducing Sets shall include non relieving regulators rated at 20 bar. For safety, a brass relief valve set at 11 bar relieving (nominal 8 bar sets) or 5.3 bar relieving (nominal 4 bar sets) including a 1" or 1 1/2" thread BSP shall be installed after the regulator. A bottom entry connection pressure gauge, monitoring 0 to 12 bar shall be included to indicate the delivered pressure of the unit. All components shall be positioned between G1" or G1 1/4" ball valves with die-cast nickel-plated brass alloy body with nitrile seals, such that either line can be isolated for maintenance purposes.

All components shall be degreased for oxygen use, making the units suitable for medical air, surgical air and oxygen applications. Under the directive, the specified products are classified as Class IIb Medical Devices.

### PRS Designation

A-B-C-D-E-F

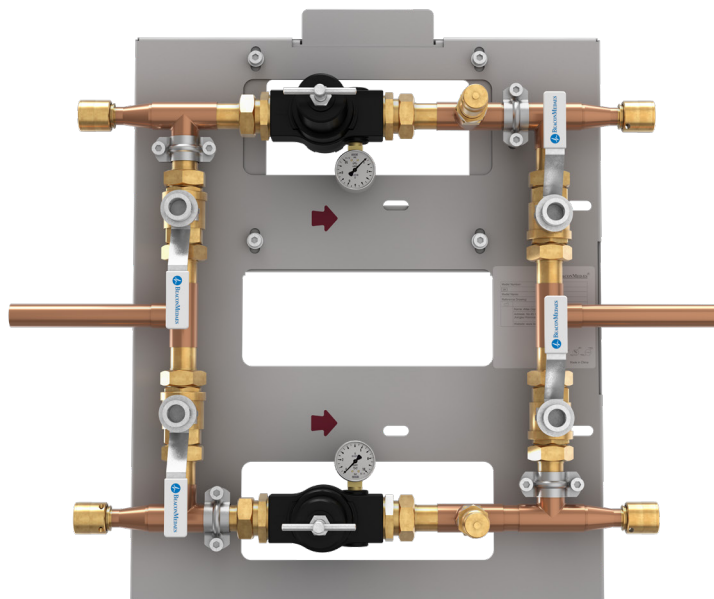
Variable	Definition	Allowable Value	Allowable Value Description
A	Model Name	MPR	Pressure Reducing Set
B	Layout Type	SX	Simplex
		DX	Duplex
C	Flow	14	1400 lpm
		24	2400 lpm
		29	2950 lpm
		30	3000 lpm
		40	4000 lpm
D	Nominal Delivery / Line Pressure	50	5000 lpm
		A	11 – 4 bar
		B	11 – 8 bar
E	Size	D	7- 4 bar
		15	15 mm
		22	22 mm
F	Gas Type	28	28 mm
		O2	Oxygen
		MA	Medical Air
		SA	Surgical Air
		NS	Without NIST

Note: The flow tolerance is  $\pm 50$  lpm.

## Duplex Units

Model Name	Part Number	Flow (l/min)	Connection Size (mm)	Inlet-Outlet Pressure (bar)
MPR-DX-14-A-15-O2	4109005329	1400	15	11 - 4
MPR-DX-14-A-15-MA	4109005330	1400	15	11 - 4
MPR-DX-14-D-15-O2	4109005332	1400	15	7- 4
MPR-DX-14-D-15-MA	4109005333	1400	15	7- 4
MPR-DX-29-B-15-SA	4109005335	2950	15	11 - 8
MPR-DX-24-A-22-O2	4109005337	2400	22	11 - 4
MPR-DX-24-A-22-MA	4109005338	2400	22	11 - 4
MPR-DX-24-D-22-O2	4109005340	2400	22	7- 4
MPR-DX-24-D-22-MA	4109005341	2400	22	7- 4
MPR-DX-40-B-22-SA	4109005343	4000	22	11 - 8
MPR-DX-50-A-28-O2	4109005345	5000	28	11 - 4
MPR-DX-50-A-28-MA	4109005346	5000	28	11 - 4
MPR-DX-50-D-28-O2	4109005348	5000	28	7- 4
MPR-DX-50-D-28-MA	4109005349	5000	28	7- 4
MPR-DX-50-B-28-SA	4109005351	5000	28	11 - 8
MPR-DX-14-A-15-NS	4109005331	1400	15	11 - 4
MPR-DX-14-D-15-NS	4109005334	1400	15	7- 4
MPR-DX-29-B-15-NS	4109005336	2950	15	11 - 8
MPR-DX-24-A-22-NS	4109005339	2400	22	11 - 4
MPR-DX-24-D-22-NS	4109005342	2400	22	7- 4
MPR-DX-40-B-22-NS	4109005344	4000	22	11 - 8
MPR-DX-50-A-28-NS	4109005347	5000	28	11 - 4
MPR-DX-50-D-28-NS	4109005350	5000	28	7- 4
MPR-DX-50-B-28-NS	4109005352	5000	28	11 - 8

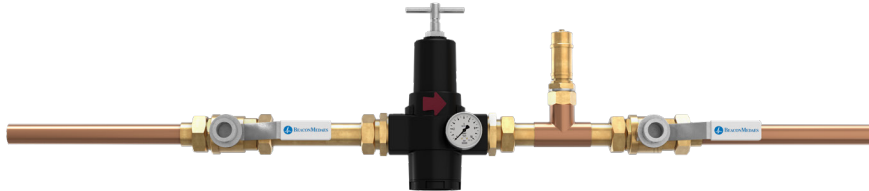
## Duplex Layout



## Simplex Units

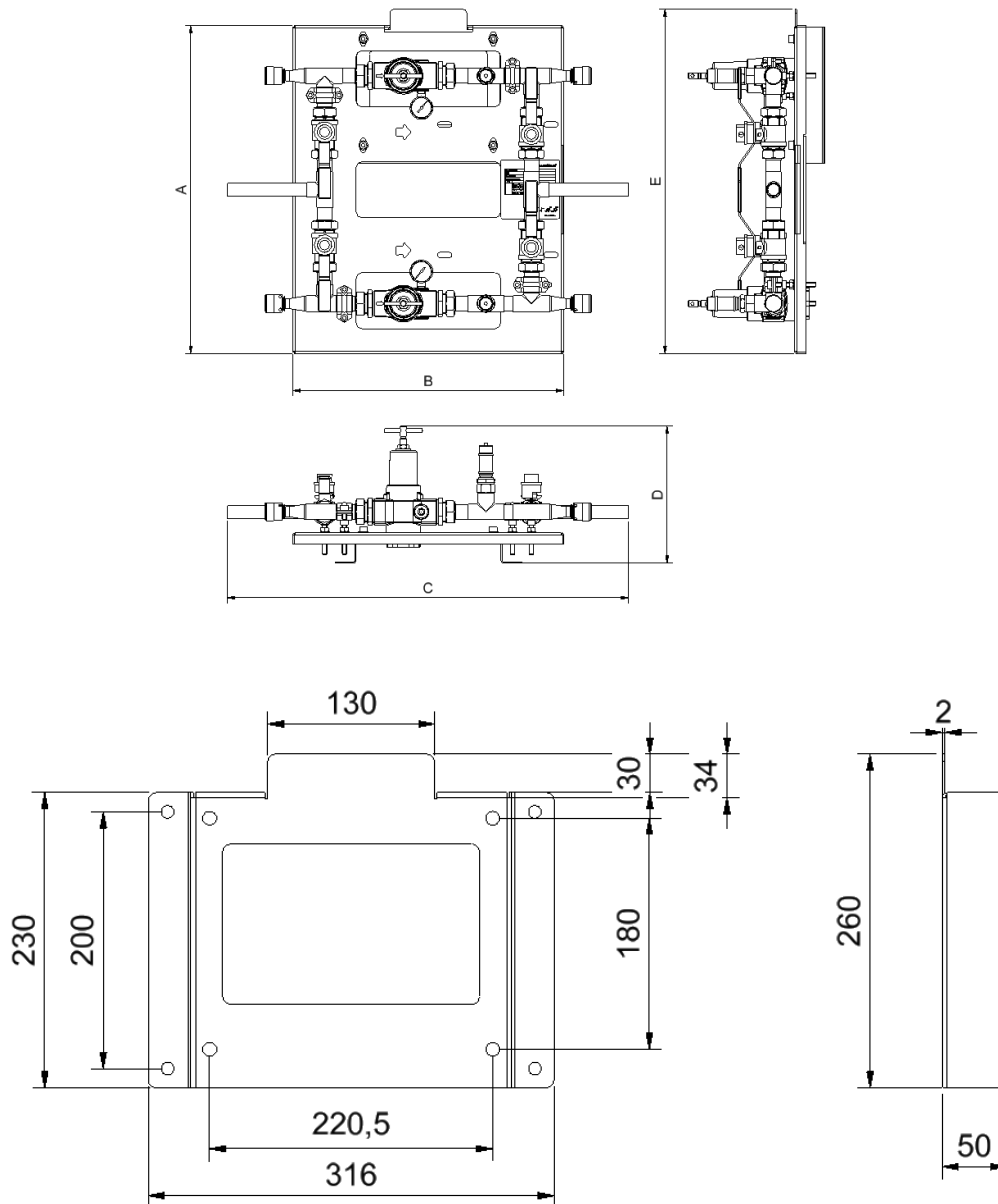
Model Name	Part Number	Flow (l/min)	Connection Size (mm)	Inlet-Outlet Pressure (bar)
MPR-SX-14-A-15-NS	4109005320	1400	15	11 – 4
MPR-SX-14-D-15-NS	4109005321	1400	15	7- 4
MPR-SX-29-B-15-NS	4109005322	2950	15	11 – 8
MPR-SX-24-A-22-NS	4109005323	2400	22	11 – 4
MPR-SX-24-D-22-NS	4109005324	2400	22	7- 4
MPR-SX-40-B-22-NS	4109005325	4000	22	11 – 8
MPR-SX-30-A-28-NS	4109005326	3000	28	11 – 4
MPR-SX-30-D-28-NS	4109005327	3000	28	7- 4
MPR-SX-50-B-28-NS	4109005328	5000	28	11 – 8

## Simplex Layout



## Options

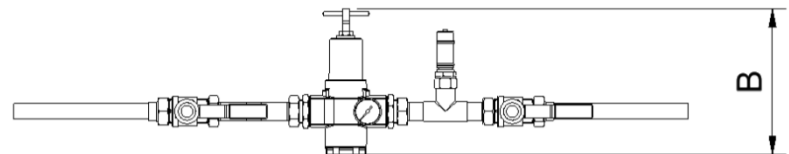
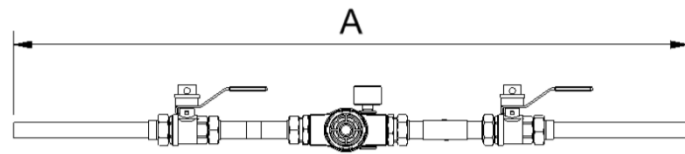
Kit Number	Description
4109005474	MPR sensor kit
4109005475	Back plate for simplex model

**Duplex Installation Dimension**


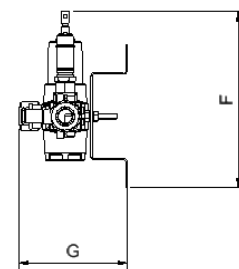
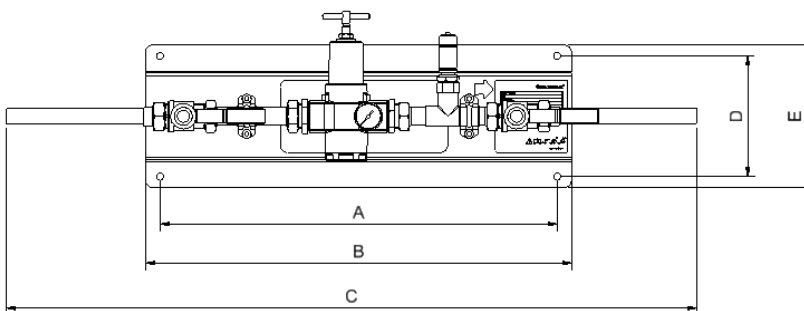
Size	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
15 mm (with NIST)	554	459	672	232	583
15 mm (w/o NIST)	554	459	694	232	583
22 mm (with NIST)	554	459	681	232	583
22 mm (w/o NIST)	554	459	703	232	583
28 mm (with NIST)	650	530	785	330	678
28 mm (w/o NIST)	650	530	814	330	678

### Simplex Installation Dimension

Size	A (mm)	B (mm)
15 mm	935	205
22 mm	949	205
28mm	1054	302



### With Back Plate (Back plate is optional for the Simplex model)



Size	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
15 mm	545	585	935	166	196	243	149
22 mm	545	585	949	166	196	243	149
28 mm	545	585	1054	166	196	329	163