

Dome Loaded Regulator

The K16 is a balanced valve dome loaded pressure regulator and provides a flow of process fluid at controlled pressure. The outlet pressure is set by adjusting the pressure in the dome. A flexible diaphragm separates the gas in the dome from the process fluid. The valve in the regulator is balanced type. It is a fail safe to closed position.

The dome must be charged with air or an inert gas such as nitrogen. The dome should be charged from an external source – this is known as “Mono Loading”. Remote dome piloting can be set using a ‘Proportional Regulator. The outlet pressure is substantially unaffected by flow rate or by changes in the inlet pressure.



Standard Features

Valve Size:

- 1/4" BALANCED

Materials of construction:

- BODY - STAINLESS STEEL - BS EN 10088 1.4541
- DOME - STAINLESS STEEL - BS EN 10088 1.4541
- SEAT - STAINLESS STEEL - BS EN 10088 1.4401
- TRIM - PCTFE
- ELASTOMERS - HIGH NITRILE

Connections:

- LINE 1/4" BSPP (INLET & OUTLET)

Maximum Inlet Pressure:

- 413 BAR (6000 PSI)

Outlet Pressure Range:

- 0.1 - 300 BAR (1.5 - 4350 PSI)

Dome Loading:

- INTERNAL OR EXTERNAL VIA 1/8" BSPP CONNECTION
- DOMES SHOULD BE LOADED WITH AIR OR INERT GAS

Media:

- LIQUIDS AND GASES

Weight:

- 1.6 Kg (3.5 lb)

Additional Features

- WELDED FLANGES ON REQUEST (STAINLESS STEEL BODIES ONLY)
- REMOTE DOME PILOTING, SEE A17 (Pg. 86) PROPORTIONAL REGULATOR

Options

Materials of construction:

- TRIM - PTFE / NYLON / DELRIN
- ELASTOMERS - FLUOROCARBON / EPDM
- BASE MOUNTING HOLES

Connections:

- LINE 1/4" NPT (INLET & OUTLET)

Applications

- Marine industries
- Gas & Oil industries
- Off shore / aggressive environments
- Oxygen use approved
- Nitrogen Plants
- Gas Analyser / Instrumentation
- Pressure test rigs

Ordering Information

TYPE	VALVE SEAT SIZE	MATERIAL OPTION	CONNECTIONS	ELASTOMER
K16	C (1/4")	B9 (St. Stl.) T0 (Alum)	E1 (1/4" BSPP) A1 (1/4" NPT)	N (NITRILE) V (FLUOROCARBON) E (EPDM)

ORDERING INFORMATION EXAMPLE:

K16CT0E1N

Notes

Technical Specifications

Pressure

TEST (PROOF) PRESSURE	620 BAR (8990 PSI)
MAXIMUM INLET PRESSURE	413 BAR (6000 PSI)
REDUCED OUTLET PRESSURE RANGE	0.1 - 300 BAR (1.5 - 4350 PSI)

Leakage

STANDARD ON REQUEST	BUBBLE TIGHT (TYPICALLY 10^{-6} AT $\text{CM}^3 \text{ SEC}^{-1}$) HELIUM LEAK TESTED TO 10^{-8} AT $\text{CM}^3 \text{ SEC}^{-1}$
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Temperature Range

	TEMPERATURE	BODY MATERIAL
STANDARD	-10°C TO +100°C	ALL
OPTION	-40°C TO +150°C	CONSULT IVP

Valve Size and flow area

NOMINAL SIZE	6.35mm (1/4")
ORIFICE AREA A1	24mm ² (0.037 in ²)
PORT AREA A2	49mm ² (0.076in ²)
FLOW COEFFICIENT	Kv = 0.72 (Cv = 0.84)

Spares Code

SPARES	VALVE SEAT SIZE	ELASTOMER
K16S	C (1/4")	N (NITRILE) V (FLUOROCARBON) E (EPDM)

Spares BOM

ITEM	DESCRIPTION	MATERIAL	QTY
1	'O' RING	Rubber	1
2	DIAPHRAGM	Rubber	2
3	'O' RING	Rubber	2
4	'O' RING	Rubber	2
5	SEAT	BS EN 10088 1.4401	1
6	VALVE ASSY	Various	1
7	'O' RING	Rubber	1
8	'O' RING	Rubber	1

Technical Specifications

