K31, K32, K33
Dome loaded pressure regulator

- Port size:
  G1 ... G3, 1 ... 2 NPT
- Internal and external dome loading
  Note: no pilot regulator needed for internal dome loading for gas service
- Balanced design ensures a stable delivery pressure, even with a varying inlet pressure
- Design option offers optimised performance at very low delivery pressures (< 5 barg)
- External sensing option for higher flow at low delivery pressure

Technical features

K30 Series Dome Loaded Pressure Regulators offer excellent pressure control at low to medium delivery pressures. Below 5 barg, the build standard is adjusted to increase sensitivity offering improved pressure control and flow performance. Its heavy duty construction makes the K30 Series ideal for arduous conditions and harsh environments.

Applications:
- Medium to Low Pressure Gas Supply Applications
- Liquid Pressure Control Applications

Medium:
Liquid and gases

Maximum inlet pressure:
K31 & K32: 70 barg (1015 psi)
K33: 55 barg (798 psi)

Outlet pressure range:
K31 & K32:
0,5 ... 70 barg (7,3 ... 1015 psi)
K33:
0,5 ... 42 barg (7,3 ... 609 psi)

Low pressure version:
Inlet pressure: 25 barg (363 psi)
Outlet pressure:
0,1 ... 5 barg (1,4 ... 73 psi)

Typical flow – valve size:
See table below

Dome loading:
Internal or external via G1/4 connection. Domes should be loaded with air or inert gas.

Leakage:
Bubble tight
(standard,
typically 10^{-6} mbar l/s)
Helium leak tested
to 10^{-8} mbar l/s
(on request)

Ambient/Media temperature:
Elastomers:
NBR:
−10 ... +100°C (+14 ... +212°F)
FPM:
−20 ... +150°C (−4 ... +302°F)
EPDM:
−30 ... +115°C (−22 ... +239°F)
Body's:
Nodular iron
−20 ... +150°C (−4 ... +302°F)
Stainless Steel
−40 ... +150°C (−40 ... +302°F)

External Sensing:
For increased flow capacity at low delivery pressure, the K30 Series can be ordered with external sensing. This feature can be applied retrospectively to regulators already in the field providing an external sensing port has been machined into the body.

Material:
Body: cast stainless steel
BS EN 10213 PT.4 1.4408 or
cast nodular iron
BS EN1563 EN-GJS-400-18-LT
Dome: cast stainless steel
BS EN 10213 PT.4 1.4408 or
cast nodular iron
BS EN1563 EN-GJS-400-18-LT
Seat: stainless steel BS EN 10088 1.4401
Trim: Elastomer
Elastomers: NBR, FPM, EPDM

Options:
Welded flanges upon request
(Stainless Steel regulators only)

Technical data

Symbol	Port size	Valve seat size		Flow coefficient		Model
		(mm)	(inch)	(Kv)	(Cv)	
	G1	12,7	0,5	2,9	3,4	K31
	G2	25,4	1	9,7	11,4	K32
	G3	25,4	1	9,7	11,4	K33
	G3	38,1	1,5	23	26	K33

Option selector

K3★★★★★★★★★

Port size	Substitute
G1	1
G2	2
G3	3
Material	**Substitute**
Cast nodular iron	P8
Stainless steel	9H
Outlet pressure	**Substitute**
Standard	S
Low pressure	L

K33 seat options	Substitute
G3 (ø 25,4 mm)	1
G3 (ø 38,1 mm)	None
Port options	**Substitute**
None	None
NPT ports (K31/K32 only)	01
External sensing NPT ports 1/8" NPT process ports	03
External sensing ISO G ports 1/8" ISO G process ports	04
Elastomers	**Substitute**
NBR	N
FPM	V
EPDM	E

Option selector spare kits

K3★S★★★

Port size	Substitute
G1	1
G2	2
G3	3
Outlet pressure	**Substitute**
Standard	S
Low pressure	L

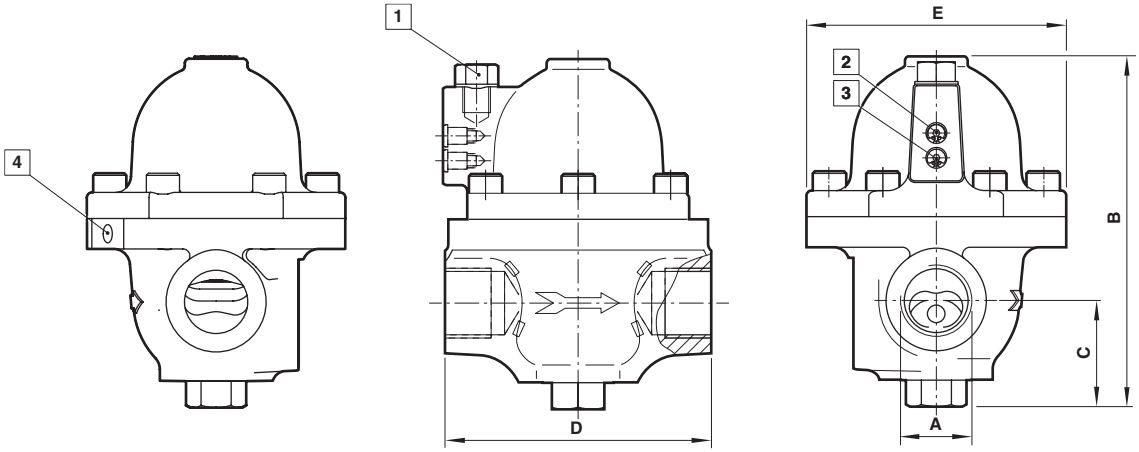
K33 seat options	Substitute
G3 (ø 25,4 mm)	1
G3 (ø 38,1 mm)	None
Elastomers	**Substitute**
NBR	N
FPM	V
EPDM	E

Spares BOM

Description	Material	QTY	Required	
			Standard pressure	Low pressure
Bonded seal	Steel	1	X	X
Circlip	BS 5216-HD 3	2	X	X
Needle valve	BS 3S 145 (normalised)	2	X	X
'O'-Ring	Rubber	2	X	X
Standard diaphragm	Rubber	1	X	–
'O'-Ring	Rubber	1	X	X
'O'-Ring	Rubber	1	X	X
Seat	BS EN 10088 1.4401	1	X	X
Valve assy	Various	1	X	X
'O'-Ring	Rubber	1	X	X
'O'-Ring	Rubber	1	X	X
Gasket	Rubber	1	–	X
Low pressure diaphragm	Rubber	1	–	X

Dimensions

Dimensions in mm
Projection/first angle



1 G1/4 dome vent and external load connection (plugged)
2 Load regulation screw for external or internal pressure
3 Load regulation screw for internal pressure only
4 External sensing port will be 1/8" NPT (K32/K33 only)

A	B	C	D	E	Weight (kg)	Model
G1	167	51	127	124	5,5	K31
G2	266	78	227	197	18,5	K32
G3	315	97	254	229	32	K33

Warning:

Do not use these products where pressures and temperatures can exceed those listed under »Technical features/data«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult IMI, Buschjost GmbH.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure. System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.