UNITED POWER
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ESTD. 1961

Crane HVAC

Brochure

CRANE
FLUID SYSTEMS

UNITED POWER
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ESTD. 1961

PRESSURE INDEPENDENT CONTROL VALVE (PICV)

CRANE
FLUID SYSTEMS

Peak Pro™

PRESSURE INDEPENDENT CONTROL VALVE

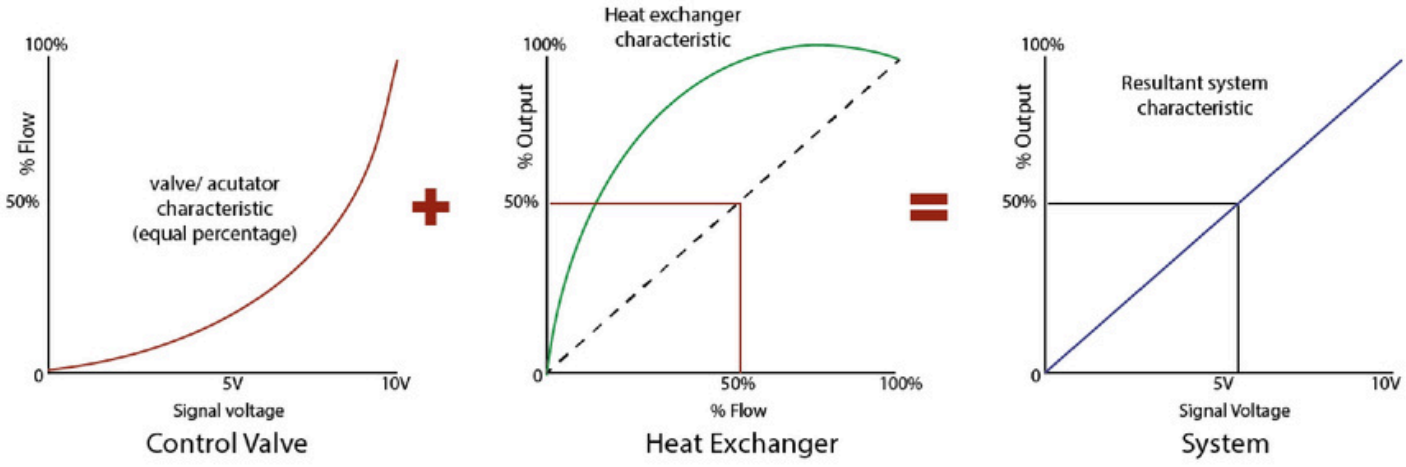
In modern Building Services projects, the desire for energy efficiency is a primary consideration for designers, installers, manufacturers, and end users. HVAC systems offer an excellent opportunity for energy savings if the correct products are specified, selected and installed and the use of these products is clearly understood. For installations incorporating items such as fan coil units (FCU) or chilled beams, the Crane Fluid Systems PICV offers an excellent solution for control of water flow rates, and therefore comfort control and energy savings when used as part of a variable volume system design. For the installer, we offer a range of solutions which are easy to select, install and commission.

Developed in the UK, tested to BSRIA PICV standards and utilising high-quality materials, these valves can provide equal percentage performance which delivers optimum control valve authority. Crane FS go further to give you the flexibility, offering various actuator options and measuring points, along with a wide differential pressure and flow rate range available.

All these factors combine to ensure our product will help you to design, deliver and maintain a system, which closes the performance gap and enables energy and cost reduction over its lifetime.

Control Characteristics

The D995 Peak Pro PICV is designed with a linear control characteristic to ensure good control over the flow rate at all settings. Our intelligent actuator controls the linear valve characteristics to an equal percentage characteristic at all valve settings.

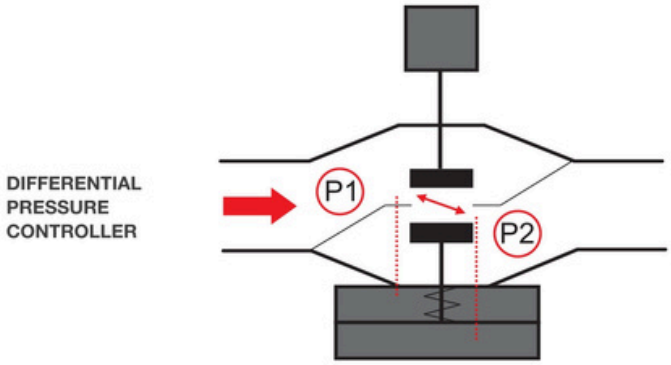


HOW DOES THE CRANE FS PICV WORK?

1. Differential Pressure Control

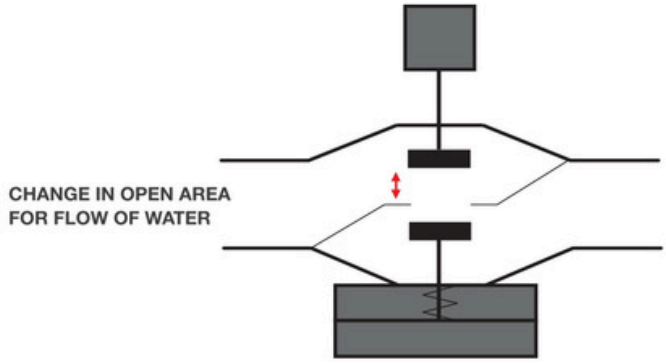
As the flow rates in the distribution pipework fluctuate to match demand, the available pressure at individual terminal units varies. This variation in available pressure has the effect of changing the flow rate through the terminal sub-circuit, i.e. an increase in pressure gives an increased flow rate.

To negate these fluctuating pressures, the PICV maintains a constant pressure drop across its seat P1 to P2, therefore maintaining a constant flow rate to the terminal.



2. Flow Regulation

By changing the open space, through which the water flows within the valve, the flow rate can be adjusted and set. The pressure across the seat of the PICV is held constant by the differential pressure controller. Whilst setting, the open area around the disk will change, resulting in a change to the flow rate. The new set flow rate recreates the constant seat differential pressure P1 to P2. Having set a new flow rate, it will stay constant at the new set value.

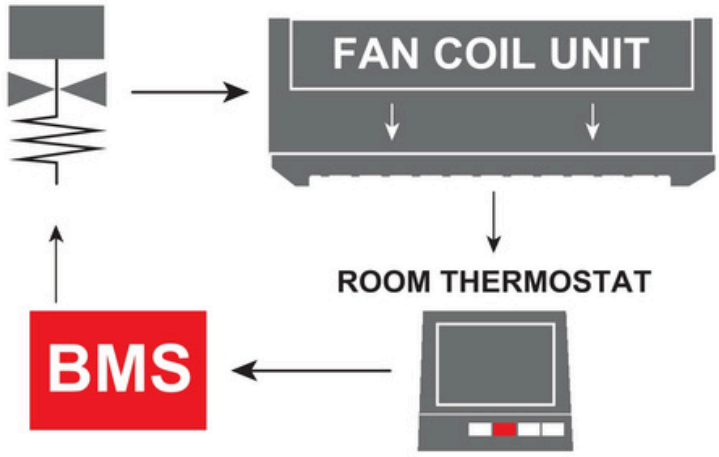


3. Comfort Control

The use of a PICV, as with all 2 port control valves, allows for the variation of the flow rate to vary the heat output of the terminal unit. The PICV is an integral part of the control loop.

4. Thermostat, BMS, PICV & Terminal Unit

By varying the flow rate we can control the heat output of the terminal. For PICVs with an equal percentage characteristic, there is a direct relationship between valve position and heat output, i.e. half open = half heat output.



WHY CHOOSE THE CRANE FS PICV?

SIMPLE FLOW SETTING DIAL

- Easy to set by hand for commissioning purposes
- Quick fit actuator connection - no tools required

FLOW CONTROL

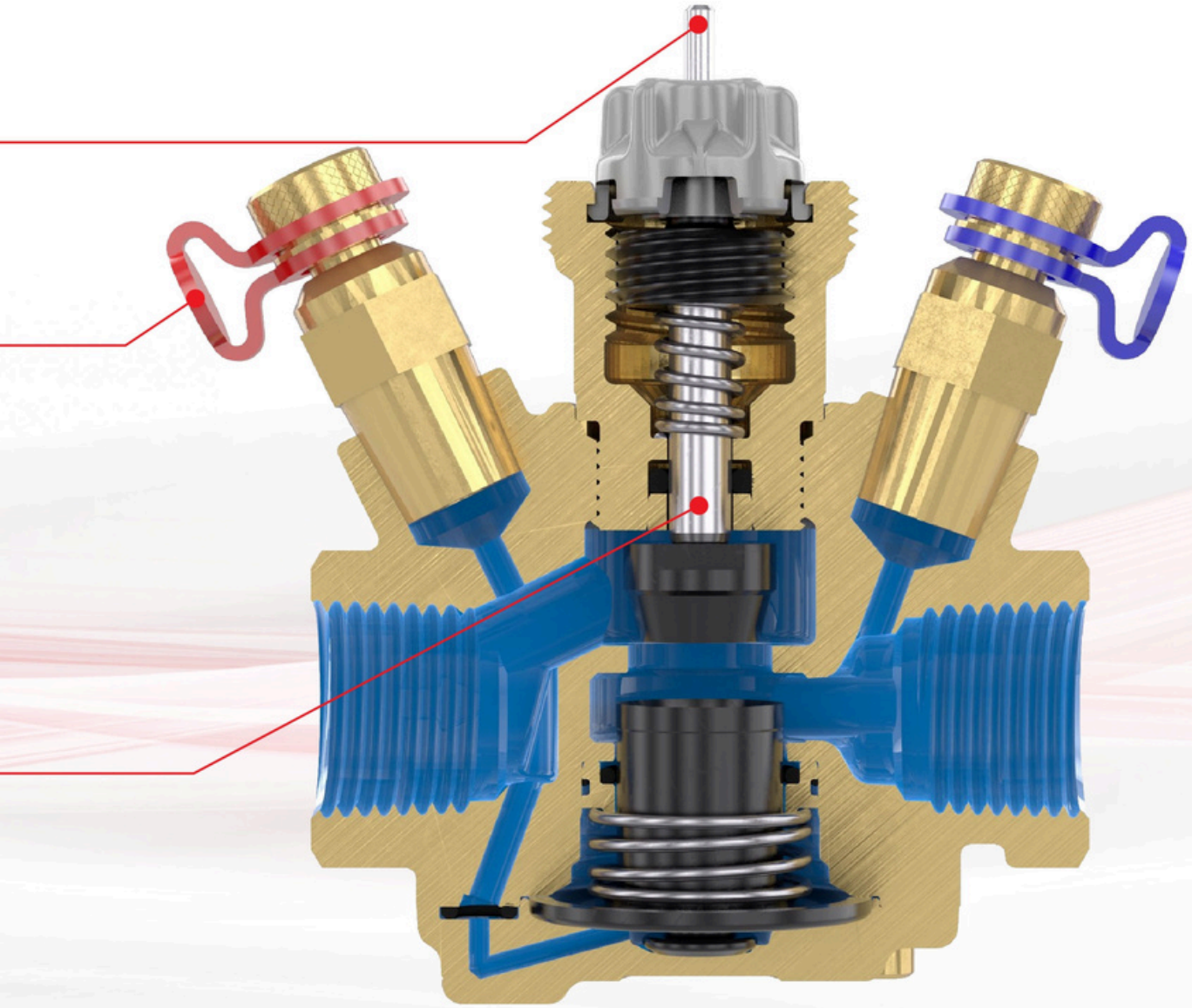
- Accurate over a wide ΔP range – up to 800 kPa
- Guaranteed performance & repeatability - hassle free commissioning
- Linear or equal percentage control available through actuator offering flexibility on site
- Class IV leakage*
- Flow range 0.008-3.80l/s

*Note: Applicable to DN15 only.

QUALITY

- These valves have been categorised in accordance with the PED (The fluid to be transported is limited to group 2 liquids i.e. non-hazardous. On no account must these valves be used on any group 1 liquids, group 1 gases or group 2 gases.)
- Comprehensive testing undertaken for each valve - pressure tested to BS EN 12266-1 and performance tested in accordance with BSRIA BTS01 (10,000 cycles test which is equal to a design life of 15 years)
- Pressure tested to BS EN 12266-1
- Performance tested in accordance with BSRIA BTS01
- Witness testing and verification of data carried out by Bureau Veritas

Peak Pro™



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TECHNICAL DESCRIPTION SUMMARY

APPLICATION
Heating and cooling hydronic systems.

FUNCTIONS:
Flow Control
- Equal percentage control characteristics (default)
- Linear control characteristic
- Both available with position Feedback signal
- Multiple control signal compatibility

LEAKAGE RATE:
Class IV to EN 1349 0.01% of stated max flow

LF	Class III (0.1% of Kv Max)
SF	Class IV (0.01% of Kv Max)
HF	Class IV (0.01% of Kv Max)

TEMPERATURE RANGE:
0°c to 90°c

DIFFERENTIAL PRESSURE

Activation up to 800kPa

Activation

DN15	LF	20 kPa
	SF	25 kPa
	HF	50 kPa
DN20	SF	27kPa
	HF	40kPa
DN25	SF	40kPa
	HF	70kPa
DN32	SF	65kPa
	HF	70kPa
DN40	SF	50kPa
DN50	SF	40kPa

VARIANTS / FLOW RANGE

Peak Pro PICV

DN15	
LF	0.008 – 0.080 l/s
SF	0.060 – 0.200 l/s
HF	0.010 – 0.370 l/s
DN20	
SF	0.070-0.350 l/s
HF	0.075-0.420 l/s
DN25	
SF	0.120-0.600 l/s
HF	0.360-0.850 l/s
DN32	
SF	0.52-1.35 l/s
HF	0.63-1.73 l/s
DN40	
SF	0.39-3.00 l/s
DN50	
SF	0.69-3.80 l/s

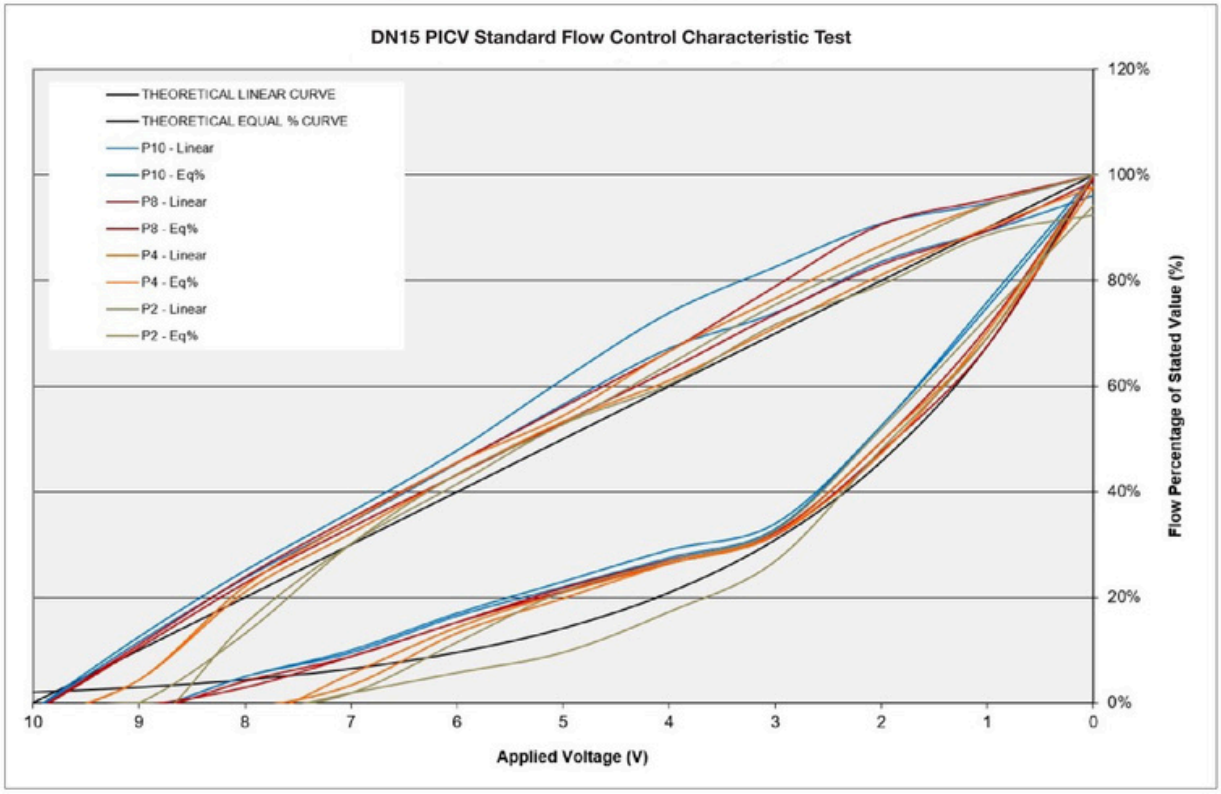
Dominator Peak Pro
DN15 X DN15
DN20 X DN20
DN25 X DN25

Peak Pro PICV

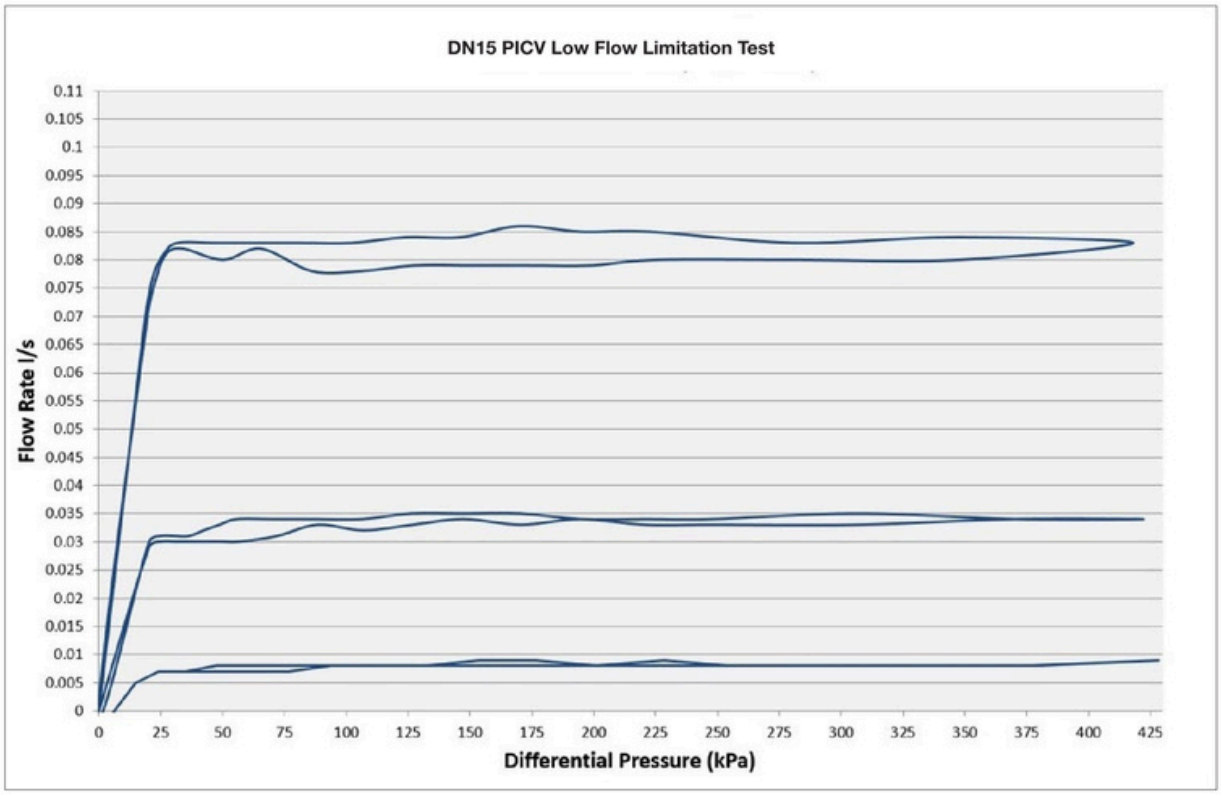
Peak Pro Dominator

EXAMPLE FLOW PERFORMANCE GRAPHS

Peak Pro Pressure Independent Control Valve



Control Characteristics Test Data



Peak Pro™ PICV

D995 DN15-DN25

Pressure Independent Control Valve PN25

bunstare

Features & Benefits

- Comprehensive flow range available, allowing for cost effective valve selections. The PICV Peak Pro has up to 70% higher max flow compared to the previous model
- Accurate over a wide ΔP range - available in both 400 and 800kPa variants
- Class IV leakage*
- PN25 rated product, suitable for high pressure applications
- Design validation testing to BSRIA BTS01. As per Cyclic Testing requirements, valve subjected to 10,000 cycles (equivalent to 15 years** of typical service)
- Comprehensive testing undertaken for each valve - pressure tested to BS EN 12266-1
- Integral test points for verification of ΔP and valve performance
- Built in convoluted integral diaphragm
- Smaller and lighter design suits applications with a small footprint

Materials

No.	Part	Material
1	Body	DZR Brass BS EN 12165 (CW602N)
2	Bonnet	DZR Brass BS EN 12165 (CW602N)
3	End Cap	DZR Brass BS EN 12165 (CW602N)
4	P84 Test Point	DZR Brass BS EN 12165 (CW602N)
5	Setting Dial	Nylon 6
6	DP Controller	Stainless Steel 303
7	Springs	Stainless Steel 302
8	Diaphragm	EPDM
9	O-Rings	EPDM
10	O-Ring Insert	DZR Brass BS EN 12165 (CW602N)
11	Stem	Stainless Steel 303

*DN15 LF Class 3 **based on two full stroke cycles per day

Dimension & Weights

	A (mm)	B (mm)	C (mm)	C2 (mm)	D (mm)	End Connections	Weight (kg)
DN15	74	36	63	120	27	½" BSP Female Taper to BS EN 10226-2	0.52
DN20	90	47	75	130	30	¾" BSP Female Taper to BS EN 10226-2	0.82
DN25	112	63	75	130	51	1" BSP Female Taper to BS EN 10226-2	1.55

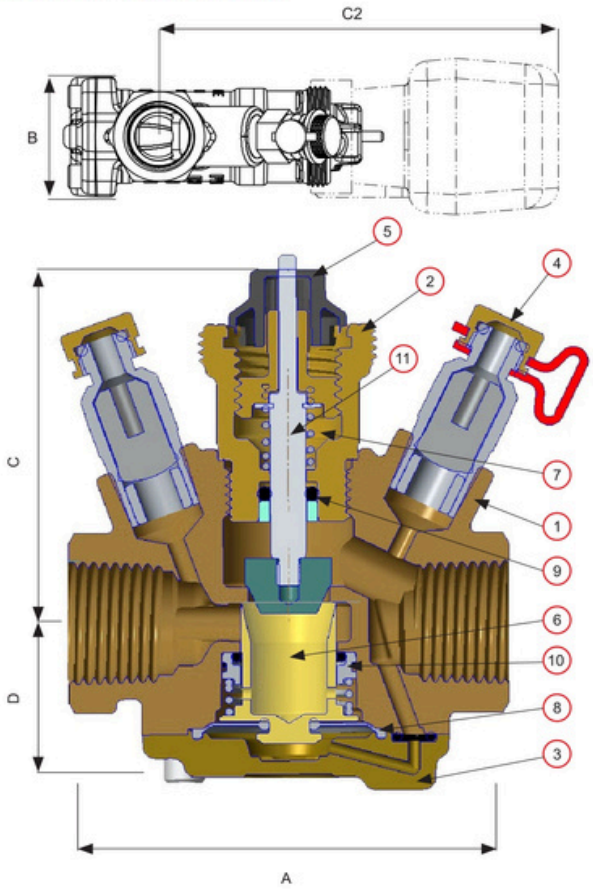
Flow Range

	Low Flow (l/s)	STD Flow (l/s)	High Flow (l/s)
DN15	0.008-0.080	0.060 - 0.200	0.10 - 0.370
DN20	-	0.070 - 0.350	0.075 - 0.420
DN25	-	0.120 - 0.600	0.360 - 0.850

Pressure/Temperature Ratings

Temperature (°C)	0°C to 90°C
Pressure (Bar)	25 Bar

Dimensional Drawings



Differential Pressure Range

	Low Flow (kPa)	STD Flow (kPa)	High Flow (kPa)
DN15	20-400 20-800	25-400 20-800	40-400 40-800
DN20	- -	27-400 27-800	40-400 40-800
DN25	- -	40-400 40-800	70-400 70-800

Please request max ΔP on order

PRESSURE RATING: PN25

MEDIUM: Group 2 Liquids

END CONNECTIONS:
BSP Female Taper to BS EN 10226-2

SPECIFICATION: The PICV shall have a constant control characteristic at all flow settings and control flow rates at differential pressures up to 800kPa. Flow rates will be externally adjustable, and set point recordable. Integral test points will be fitted to verify setting pressure allowing pumps to be set at optimum speed to maximise energy savings. Shall be manufactured from DZR Brass, with Stainless Steel springs, and an EPDM diaphragm. Shall be rated to PN25 and operate at temperatures to 90°C. As per Crane FS Peak Pro (Fig D995).

SPARES: Isolating cap part number 0ED13666H.

Made in Britain

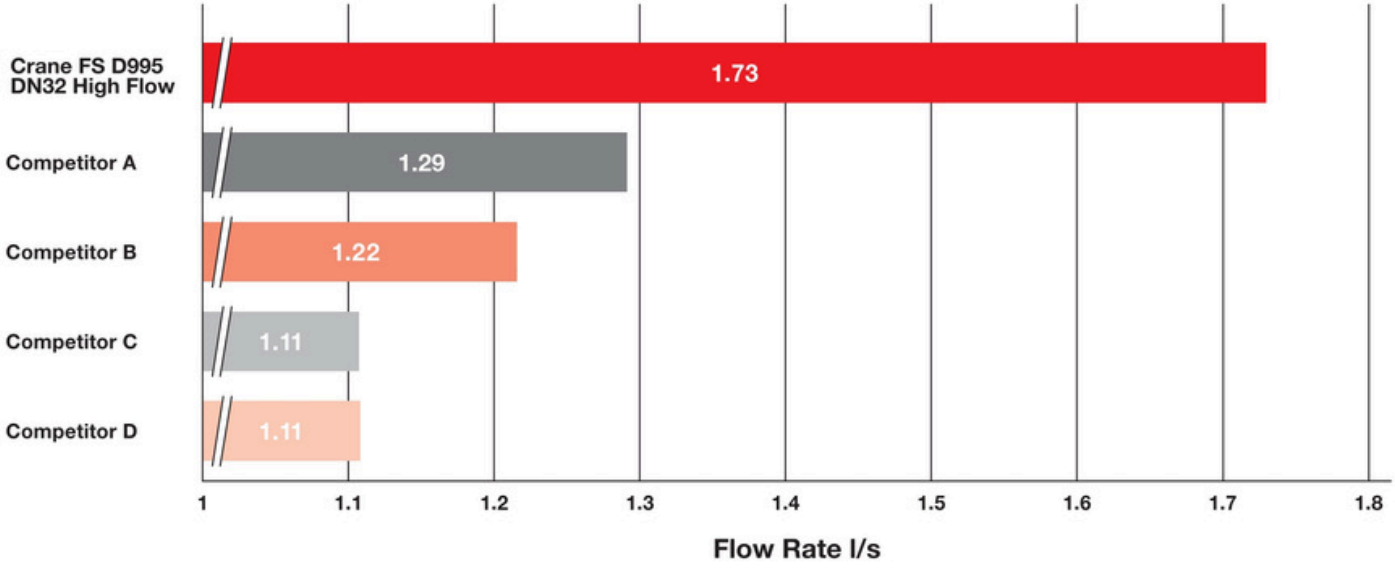
Valid as of 080818

Next Generation PICV D995 DN32

Peak Pro®

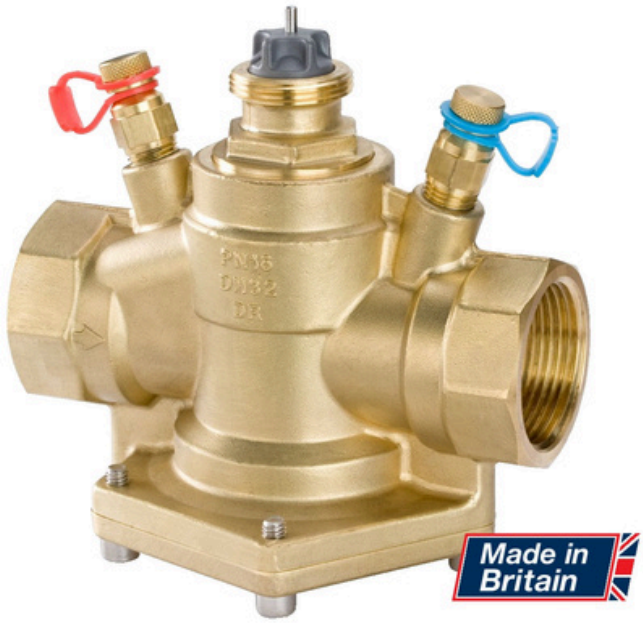
High performance valve with greater flow rates.

BEST IN CLASS - FLOW RATE vs SIZE[1]



FEATURES & BENEFITS

- Low activation & low hysteresis are consistent across the operating range. The PICV responds quickly to maintain a consistent flow which improves pump efficiency, resulting in energy savings & lower running costs.
- Excellent performance coverage from the DN32 ensures smaller pipework can be specified, compared to using larger sized valves. A real saving for the contractor & end user.
- Reductions in weight and footprint allow the valves to be used within smaller voids.
- Available with a range of actuators to suit fan coil units and chilled beam applications.



FLOW MEASUREMENT

- The PICV Peak Pro has up to 80% higher max flow compared to the previous model
- Accurate over a wide ΔP range - up to 800kPa

PERFORMANCE

- Comprehensive testing undertaken for each valve - pressure tested to BS EN 12266-1
- PN16 rated product
- Flow Range
  Standard Flow: 0.53 - 1.35 l/s
  High Flow: 0.62 - 1.73 l/s

DESIGN

- Design validation testing to BSRIA BTS01. As per cyclic testing requirements, valve subjected to 10,000 cycles (equivalent to 15 years[2] of typical service)
- Integral test points for verification of ΔP and valve performance

[1]Data sourced from published competitor flow rates as of February 2021.

[2]Based on two full stroke cycles per day

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Peak Pro™ PICV

D995 DN32

Pressure Independent Control Valve PN16

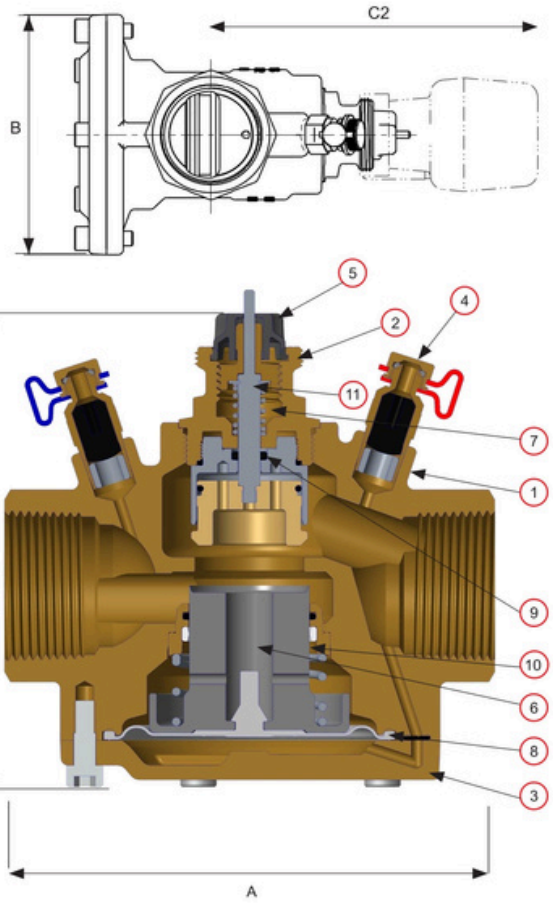
bumstare

Features & Benefits

- Comprehensive flow range available, allowing for cost effective valve selections. The PICV Peak Pro has up to 80% higher max flow compared to the previous model
- Accurate over a wide ΔP range - up to 800kPa
- Class IV leakage
- PN16 rated product, suitable for high pressure applications
- Design validation testing to BSRIA BTS01. As per Cyclic Testing requirements, valve subjected to 10,000 cycles (equivalent to 15 years* of typical service)
- Comprehensive testing undertaken for each valve - pressure tested to BS EN 12266-1
- Integral test points for verification of ΔP and valve performance
- Built in convoluted integral diaphragm
- Smaller and lighter design suits applications with a small footprint

*based on two full stroke cycles per day

Dimensional Drawings



Materials

No.	Part	Material
1	Body	DZR Brass BS EN 12165 (CW602N)
2	Bonnet	DZR Brass BS EN 12165 (CW602N)
3	End Cap	DZR Brass BS EN 12165 (CW602N)
4	P84 Test Point	DZR Brass BS EN 12165 (CW602N)
5	Setting Dial	Nylon 6
6	DP Controller	Stainless Steel 303
7	Springs	Stainless Steel 302
8	Diaphragm	EPDM
9	O-Rings	EPDM
10	O-Ring Insert	DZR Brass BS EN 12165 (CW602N)
11	Stem	Stainless Steel 303

Dimension & Weights

	A (mm)	B (mm)	C (mm)	C2 (mm)	D (mm)	End Connections	Weight (kg)
DN32	135	100	76	135	56	1-1/4" BSP Taper	2.3

Flow Range

	STD Flow (l/s)	High Flow (l/s)
DN32	0.52-1.35	0.63-1.73

Pressure/Temperature Ratings

Temperature (°C)	0°C to 90°C
Pressure (Bar)	16 Bar

Differential Pressure Range

	STD Flow (kPa)	High Flow (kPa)
DN32	65-800	70-800

PRESSURE RATING: PN16

MEDIUM: Group 2 Liquids

END CONNECTIONS:
BSP Female Taper to BS EN 10226-2

SPECIFICATION: The PICV shall have a constant control characteristic at all flow settings and control flow rates at differential pressures up to 800kPa. Flow rates will be externally adjustable, and set point recordable. Integral test points will be fitted to verify setting pressure allowing pumps to be set at optimum speed to maximise energy savings. Shall be manufactured from DZR Brass, with Stainless Steel springs, and an EPDM diaphragm. Shall be rated to PN16 and operate at temperatures to 90°C. As per Crane FS Peak Pro (Fig D995).

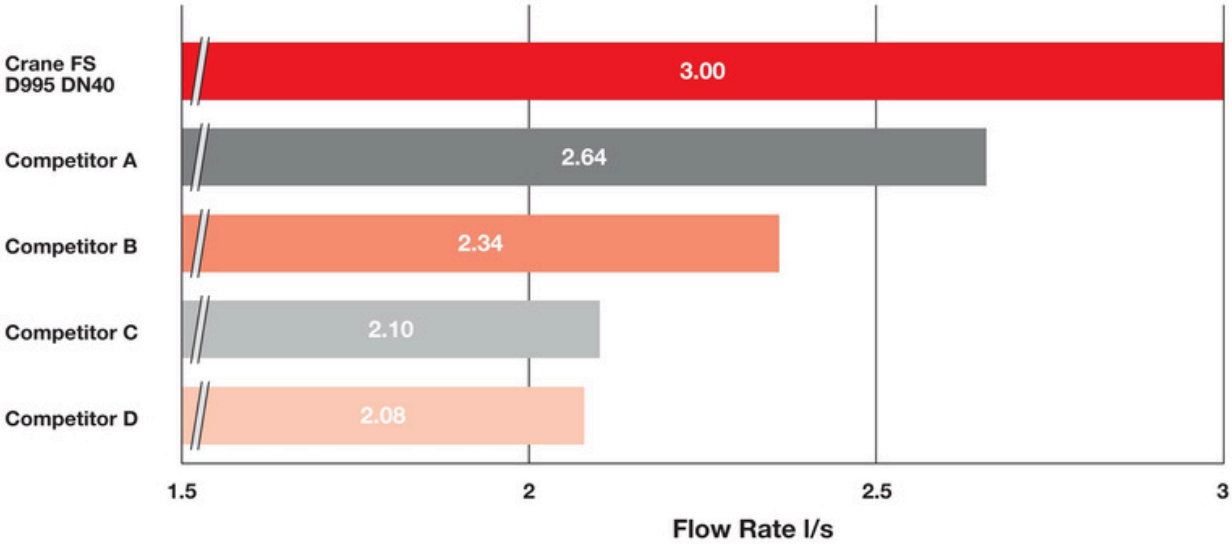
SPARES: Isolating cap part number 0ED13666H.

Made in Britain

Valid as of 100221

Next Generation PICV D995 DN40 & DN50

DN40 BEST IN CLASS - FLOW RATE vs SIZE[1]



FEATURES & BENEFITS

Low Activaton

The PICV responds very quickly to maintain a consistent flow, ultimately improving pump efficiency, helping reduce energy usage across the system, resulting in energy savings and lower running costs.

Low Hysteresis & Great Control

The impact of high hysteresis can result in an inefficient systems that can cause a time delay in temperature settings that will affect the environment that you are in.

With low hysteresis and great control the PICV ensures the system can respond quickly and efficiently resulting in a comfortable environment for the end user and ultimately reducing energy consumption.

Compact Design, Better For The Planet

The new D995 Peak Pro PICV DN40 & DN50 are lighter than the previous models, reducing its carbon footprint (Scope3 emissions), but offers higher maximum flow rates.

- DN40 - 20% weight reduction
- DN50 – 37% weight reduction

Less raw materials, eco-friendly packaging and lower freight impact all contribute to limit CO2 emissions.

[1]DN40 Data sourced from published competitor flow rates as of September 2021.

[2]Based on two full stroke cycles per day

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Peak Pro™ PICV

D995 DN40 & DN50

Pressure Independent Control Valve PN16

bunstore

Features & Benefits

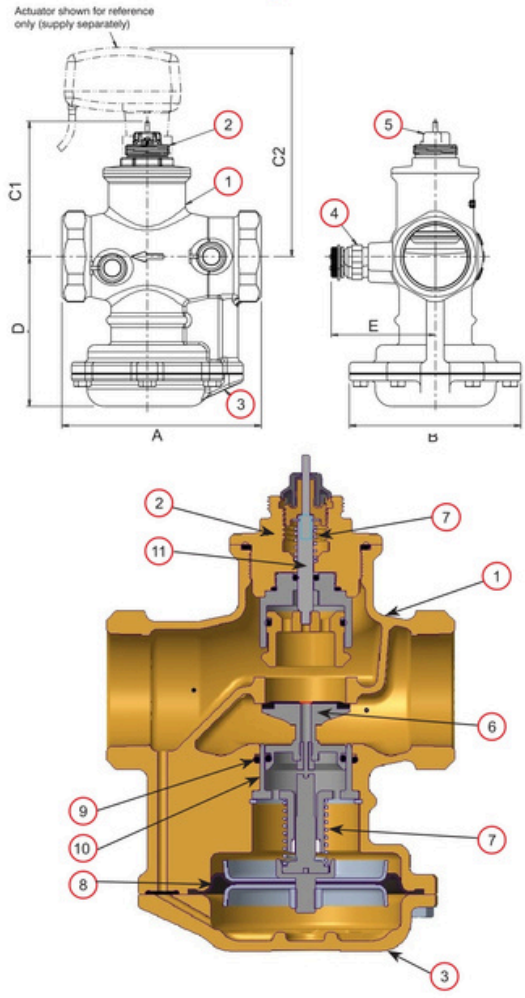
- Comprehensive flow range available, allowing for cost effective valve selections. The PICV Peak Pro has up to 25% higher max flow compared to the previous model
- Accurate over a wide ΔP range - up to 800kPa
- Class IV leakage
- PN16 rated product, suitable for high pressure applications
- Design validation testing to BSRIA BTS01. As per Cyclic Testing requirements, valve subjected to 10,000 cycles (equivalent to 15 years* of typical service)
- Comprehensive testing undertaken for each valve - pressure tested to BS EN 12266-1
- Integral test points for verification of ΔP and valve performance
- Built in convoluted integral diaphragm
- Smaller and lighter design suits applications with a small footprint

*based on two full stroke cycles per day

Materials

No.	Part	Material
1	Body	Bronze BS EN 1982 (CC491K)
2	Bonnet	Bronze BS EN 1982 (CC491K)
3	End Cap	Bronze BS EN 1982 (CC491K)
4	P84 Test Point	DZR Brass BS EN 12165 (CW602N)
5	Setting Dial	Nylon 6
6	DP Controller	Stainless Steel 303
7	Springs	Stainless Steel 302
8	Diaphragm	EPDM
9	O-Rings	EPDM
10	O-Ring Insert	Stainless Steel 303S
11	Stem	Stainless Steel 303S

Dimensional Drawing



Dimensions & Weights

Size (DN)	A (mm)	B (mm)	C1 (mm)	C2 (mm)	D (mm)	E (mm)	End Connections	Weight (kg)
DN40	137.1	118	94	145	104	72	1 ½" BSP Female Taper to BS EN 10226	3.60
DN50	161.5	118	99	150	106.5	78	2" BSP Female Taper to BS EN 10226	4.25

Flow Range

Size (DN)	Flow (l/s)
DN40	0.39 - 3.00
DN50	0.69 - 3.80

Differential Pressure Range

Size (DN)	Flow (kPa)
DN40	50 - 800 kPa
DN50	40 - 800 kPa

Pressure/Temperature Ratings

Temperature (°C)	0°C to 90°C
Pressure (Bar)	16

PRESSURE RATING: PN16

END CONNECTIONS:
BSP Female Taper to BS EN 10226-2

MEDIUM: Group 2 Liquids

SPECIFICATION: The PICV shall have a constant control characteristic at all flow settings and control flow rates at differential pressures up to 800kPa. Flow rates will be externally adjustable, and set point recordable. Integral test points will be fitted to verify setting pressure allowing pumps to be set at optimum speed to maximise energy savings. Shall be manufactured from Bronze (CC491K), with Stainless Steel springs, and an EPDM diaphragm. Shall be rated to PN16 and operate at temperatures to 90°C. As per Crane FS Peak Pro (Fig D995).

SPARES: Isolating cap part number 0ED13666H

Made in Britain

Valid as of 130921

DPIC992F DN50-DN150

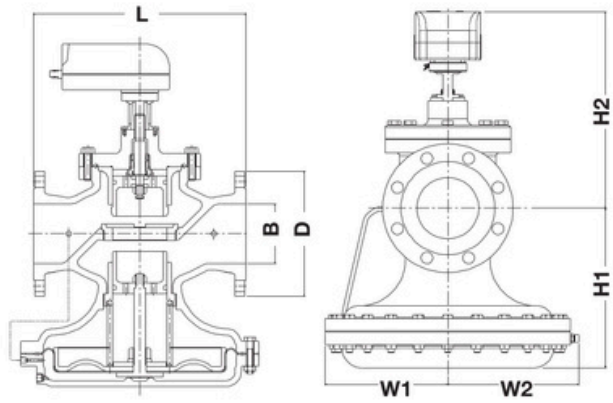
Pressure Independent Control Valves PN16

Features & Benefits

- Optimal control creates energy savings when used as part of a variable flow system.
- Easy to install in limited and difficult site conditions, for use with large plant items such as air Handling Units (AHU)
- Built-in differential pressure controller ensures accurate system design flow rates are achieved and eliminates overflows caused by fluctuating system pressures, which in turn reduces the system running costs.
- No balancing method needed for commissioning, saving time on site
- Linear or equal percentage characteristics, settable with an actuator, contribute to precise environmental temperature control
- Constant, high valve authority for maximum efficiency, available in sizes: DN50 to DN150

Materials

No.	Part	Material	Specification
1	Body	Ductile Iron	EN-GJS-450-10 (GCD450)
2	Bonnet	Ductile Iron	EN-GJS-450-10 (GCD450)
3	Bottom Cover	Ductile Iron	EN-GJS-450-10 (GCD450)
4	O-Rings	EPDM	-
Flow Controller			
5	Seat	Bronze	BS EN 1982: CC491K
6	Plug	Bronze	BS EN 1982: CC491K
7	Stem	Stainless Steel	304S15 / 1.4301
8	Bearing Sleeve	Nylon	PA66
9	Guide Bush	Stainless Steel	304S15 / 1.4301
Pressure Controller			
11	Plug / Stem / Guide	Nylon	PA66
12	Diaphragm	EPDM	-
13	Diaphragm Plate	Stainless Steel	304S15 / 1.4301
14	Springs	Spring Steel	-



Note: This Valve is designed to function only with the actuator fitted and cannot be used as a Constant Flow Regulator i.e. without the actuator fitted.

All dimensions are nominal.

Dimensions & Weights

Size (DN)	L (mm)	W1 (mm)	W2 (mm)	H1 (mm)	H2 (mm)	D (mm)	B (mm)	Weight (kg)	Max Flow Rate (m3/hr)
DN50	254	139	154	101	291	165	50	33	20
DN65	272	139	154	185	300	185	65	40	30
DN80	272	139	154	185	300	200	65	43	30
DN100	352	139	212	260	320	220	100	74	55
DN125	400	139	212	266	346	250	125	93	90
DN150	451	139	212	350	400	285	150	162	150

Pressure/Temperature Ratings

Temperature (°C)	5°C to 120°C
Pressure (Bar)	16
Operating Pressure Range Across Valve (kPa)	50-400 at 100% Flow 40-400 at 80% Flow 30-400 at 30% Flow

PRESSURE RATING: PN16

END CONNECTIONS: Flanges to BS EN 1092-2 PN16

OPERATOR: Actuator supplied and fitted. Can be configured to Modulating / 3 Point / On-Off Linear and Equal Percentage control characteristic

IP RATING: IP54

FLOW ACCURACY: +/-10%

SEAT LEAKAGE: LINEAR: Class IV (0.01% of Max flow)
Equal %: 2% of Max Flow

Valid as of 260418

Made in Britain

Z9801P

Peak Pro™

Dominator Peak Pro with PICV & Strainer Drain

Z9801PF

Dominator Peak Pro with PICV, Strainer Drain and FMD

PN16

Features & Benefits

- Compact, pre-fabricated unit – now available with Peak Pro PICV with a wide range of settable flows to suit all applications
- All valves are subject to both a pressure test, in accordance with BS EN 12266-1, as well as a flow limitation test, in accordance to BSRIA BTS1. This provides reassurance of performance and accuracy within each valve provides accurate flow rates & differential pressure control as well as flow measurement (Z9801PF), system flushing and isolation
- DZR H Body tested to 3.1X Design Working Pressure (DWP) during development for design robustness and tested to EN12516-2 to comply with the Pressure Equipment Directive (PED)
- Fully assembled & factory tested unit reduces installation time, costs and specification risks
- Available with and without extension stems to suit customer specification
- Available in 400kPa & 800kPa rated variants
- On-Off, modulating or feedback actuators are available separately to match specification

Materials

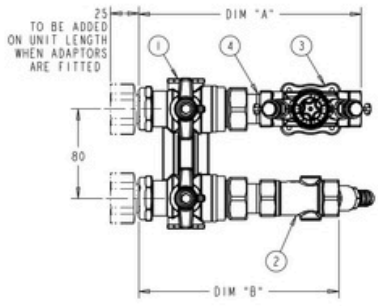
No.	Part	Material	Specification
1	Bypass H-Body	DZR Brass	BS EN 12165 (CW602N)
2	D299P Strainer Drain	DZR Brass	BS EN 12165 (CW602N)
3	D995 PICV	DZR Brass	BS EN 12165 (CW602N)
4	Tailpiece	DZR Brass	BS EN 12165 (CW602N)
5	D901/ D902 FMD	DZR Brass	BS EN 12165 (CW602N)

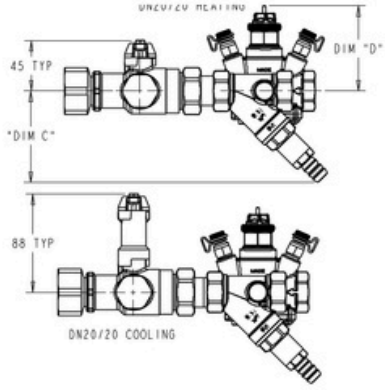
Dimensions & Weights

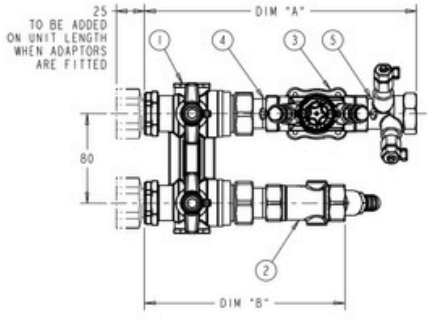
Size (DN)	A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)
Z9801P 15/15	160	148	76	67	2.15
Z9801P 20/15	184	173	76	67	2.54
Z9801P 20/20	197	178	82	77	2.91
Z9801P 25/20	197	178	82	77	2.91
Z9801P 25/25	248	224	89	77	4.22
Z9801PF 15/15	204	148	76	67	2.35
Z9801PF 20/15	229	173	76	67	2.75
Z9801PF 20/20	241	178	82	77	3.21
Z9801PF 25/20	261	198	82	77	3.51
Z9801PF 25/25	298	224	89	77	4.55

Dimensional Drawings

(Standard configuration shown)







PRESSURE RATING: PN16

TEMPERATURE RATING: -10 to 100°C

END CONNECTIONS:
Flushing By-pass body - BSP Taper,
Strainers & Tailpieces - BSP Taper

SPECIFICATION: DZR Brass (BS EN 12165) fan-coil valve/ terminal unit valve assembly. Preassembled to the requirements of each individual terminal unit to include a flushing by-pass with integral isolation valves, Peak Pro Pressure Independent Control Valve (PICV), with options for low flow to high flow, flow measurement device, strainer, drain and pressure test points as and where specified. Extended handles will be fitted for Chilled Water applications. On-Off or modulating actuator is required to control the PICV. Valve assembly will be labelled to include the terminal unit reference number and flow rate. Generally as Crane FS Z9801P & Z9801PF Dominator Peak Pro system with PICV.

Made in Britain

Valid as of 250920

INSULATION JACKET FOR Z9801P & Z9801PF

DN15 to DN25

Features & Benefits

Compact insulation solution - resulting in high performance, energy saving valves.

- **Installation** - Easy to install & remove.
  When servicing or inspection is required the Hook & Loop fastenings & pull string allow easy access or removal.
- **Sustainability** - Removable and reusable, the jackets are a fantastic way to help protect the environment.
  Insulating the Dominator with a jacket instead of hard insulation prevents unnecessary waste being discarded once removed for servicing or inspection.
- **Footprint** - Designed to be compact with a small foot print.
  Ensures storage and shipping emissions are reduced throughout the supply chain.
- **Energy Saving** - Saves money on energy bills.
  Compared to hard insulation versions, the jacket significantly reduces the gaps around the valve, reducing heat loss & increasing system efficiency.
- **Safety** - Fire Safety rating BS EN13501-1 Class A1
  We pride ourselves on providing the highest safety rating on the market.
- **Performance** - 72hr continuous ambient temperature testing.
  Rigorous steam ambient testing to ensure the jacket gives you the highest performance.

Item	Material Properties
Insulating Material	• 25mm Thick Glass Wool • Fire Protection to BS EN13501-1 Class A1 • Thermal Conductivity (0.034 W/mK at 0°C to 0.042 W/mK at 50°C) BS EN12667
Covering	• 25mm Thick Glass Wool • Fire Protection to BS EN13501-1
Hook & Loop	• 100% Polyamide • Woven with cold cutting sewing edges • Temperature range -30°C to 140°C
Pull Cord	• Braided Spun Polyester Cord • Melting point 230°C

Weather Resistance

ISO Accreditations
ISO 20340:2009 – performance requirements for protective paint systems for offshore Structures for 4,200 hours in cycles of • 72 hours accelerated UV weathering ISO 11507 • 72 hours neutral salt spray exposure ISO 9227 • 24hrs stead state low- temperature testing at -20°C

Insulation hoses are offered as a separate item and are not covered in this data sheet.

Care instructions:

When installing insulation jackets sometimes they can become dirty, sticky, or dusty.

✓	• Wash with mild soap or detergent mixed with warm water. • Rinse with clean water adequately. • Wipe the surface completely clean with dry cloth or dry towel.
✗	• **Do not** leave any water stains or markings on the surface of the jacket. • **Do not** use abrasive cleaners that will scratch the surface.* • **Do not** use Steel Wool / Steel Brushes. • **Do not** drag rough items across the surface. • **Do not** use Bleach or other cleaners that contain chlorine.

*scratches are not visible depending on what has scratched it.

Part Numbers

Insulation Jacket for Z9801P Dominator without FMD	
Size	**Part Number**
DN15	0JG93322D
DN20	0JG93323E
DN25	0JG93324F

Insulation Jacket for Z9801PF Dominator with FMD	
Size	**Part Number**
DN15	0JG93458U
DN20	0JG93459V
DN25	0JG93460N

Weatherproofing
Tested in extreme weather conditions

Valid as of 050822

Made in Britain

300MM INSULATED BRAIDED HOSES

DN15 to DN25

Features & Benefits

- Flexible design of the hose enables the connection between the fan coil unit and the pump with using no additional fitting requirement (elbows etc.), reducing the time spent on assemblies and overall cost.
- Insulated hoses prevent sweating which may exist in heating and cooling systems.
- Braided hoses reduce noise and vibration.
- Special welding process prevents potential corrosion caused by moisture around the connection points.
- Available in male x male and male x female configurations.
- Hose Length: 300mm
- Temperature Range: -270/600°C
- Insulation Thickness: 9mm
- Tube Material: Stainless Steel AISI 304
- Hose Material: EDPM
- Connections: Carbon Steel/Stainless Steel

PN16 Rated

Part Number	Description	Hose I/D	Threaded Connection I/D	Connections
0JG93462Q	DN15x15 MxM	15mm	15mm	1/2" BSP male x 1/2" BSP male
0JG93463R	DN20x20 MxM	19mm	19mm	3/4" BSP male x 3/4" BSP male
0JG93464S	DN25x25 MxM	25mm	25mm	1" BSP male x 1" BSP male
0JG93465T	DN15x15 MxF	15mm	15mm	1/2" BSP male x 1/2" BSP female
0JG93466U	DN20x20 MxF	19mm	19mm	3/4" BSP male x 3/4" BSP female
0JG93467V	DN25x25 MxF	25mm	25mm	1" BSP male x 1" BSP female

Valid as of 240822

Made in Britain

ACTUATOR OPTIONS

Electro-Mechanical Actuators – Modulating

Forced convection (active) terminal units, i.e. FCU (Fan Coil Units) and active Chilled Beams are designed to be very responsive to changes in room temperature. Modulating actuators enable flow rate changes, and consequently heat output changes, to quickly match demand requirements, therefore, modulating actuators should be chosen for forced convection terminal units. Modulating actuators allow all intermediate flow rates between full flow and no flow.

Feedback

ACTD995FB is a Feedback actuator allowing modulating control with 0-10V positional feedback signal function.

The feedback signal can be used by an external monitoring system to compare with control signal in order to check for ensure system is functioning correctly.

Fail Safe

ACTD995FS is a Fail Safe actuator designed to protect the equipment and the system from damage, while enhancing overall efficiency.

In the event of a disruption to the power supply the actuator will drive either open or closed, powered by an internal super capacitor.

The failsafe actuator can be fully configured using the user-friendly configuration tool (available separately).

Failsafe models include 0-10V positional feedback signal function.

Application	Fig No.	Part No	Function	Voltage	Cable Length	IP Rating	PICV SIZE
FAN COIL UNIT & ACTIVE CHILLED BEAMS	ACT991M	0EA08739E	MODULATING GAP DETECTION	24VAC/DC (0-10V CONTROL SIGNAL)	1.5m	IP54	DN15-50
	ACTD995FB	0JG93140Y	FEEDBACK MODULATING GAP DETECTION				
	ACTD995FS	0JG93442L (OPEN)	FAIL SAFE MODULATING GAP DETECTION (OPEN/ CLOSED)				
		0JG93443M (CLOSED)					
FAN COIL UNIT	ACT991TP	0EA08740W (24V)	3 POINT FLOATING	24VAC/DC or 230V			
		0JG92774A (230V)					
PASSIVE CHILLED BEAMS	ACT991TH	0JG93474U (24V)	THERMAL ON/OFF (NORMALLY CLOSED)		0.65m	IP44	DN15-25
		0JG93475V (230V)					

ACTUATORS

ACT991M / ACTD995FB / ACTD995FS / ACT991TP / ACT991TH

Features & Benefits

- **ACT991M** is a modulating actuator providing proportional (equal percentage) control. This now includes a stem gap detection innovation, which reduces onsite adjustments and results in easier installation and commissioning. The gap detection feature matches the stroke length of the valve during calibration, ensuring the actuator conversion to equal percentage is accurate and gives the desired flow control across all valve settings for the operating differential pressure range.
- **ACTD995FB** is a Feedback actuator allowing proportional control with 0-10V with position feedback signal function.
- **ACTD995FS** is a Fail Safe actuator designed to protect the equipment and the system from damage, while enhancing overall efficiency
- **ACT991TP** is a 3-point actuator (or floating point) electromechanical actuator for use where thermal actuators are not suitable.
- **ACT991TH** is a thermal actuator designed for ON/OFF control. Thermal actuators are small, light, and therefore a good choice for confined spaces.
- All feature an LED for the indication of the operating status*.

** Excludes ACT991TH*

Materials

	Material
Cover	Thermoplastic
Yoke	PA66 - Glass Mineral filled
Thread Nut	Brass CuZn40Pb2 Thermoplastic - ACT991TH Only

Dimensions & Weights

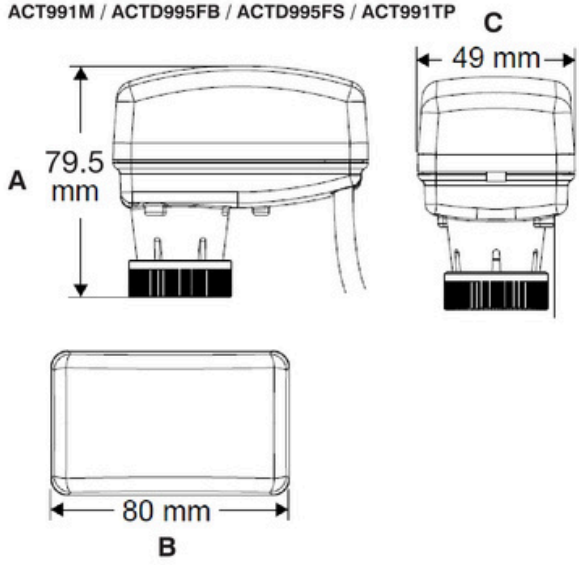
Fig No.	Cable Length	A (mm)	B (mm)	C (mm)	Weight (kg)
ACT991M	1.5m	79.5	80	49	0.2
ACTD995FB					
ACTD995FS					
ACT991TP					
ACT991TH	0.65m	70	46	38.5	0.1

ACT991M / ACTD995FB / ACTD995FS / ACT991TP

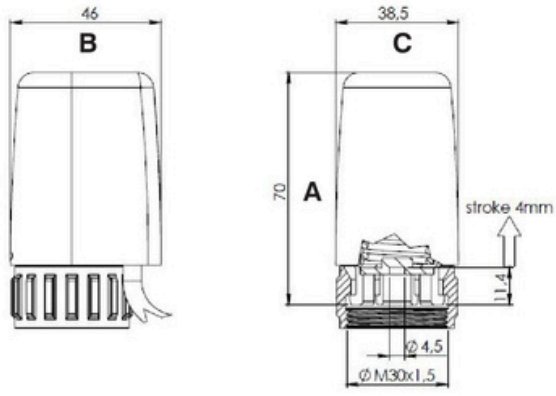
ACT991TH

Dimensional Drawing

ACT991M / ACTD995FB / ACTD995FS / ACT991TP



ACT991TH



Technical Specification

Actuator Type	Power Supply	Control Signal	Configurations	Control Type	Nominal Force	Stroke Length	Running Time	Protection Class	Connections	Calibration
ACT991M	24VAC/DC	0 - 10V DC 0 - 5V DC 2 - 10V DC 4 - 20mA	Direct acting	Proportional	140N	6.3mm max	8 sec/mm	IP54	M30 x 1.5	Self Calibrating
ACTD995FB			Direct acting		160N					
ACTD995FS			Reverse acting							
ACT991TP	24VAC/DC (230V Available)	N/A	N/A	Raise / Lower	140N		13 sec			
ACT991TH				ON/OFF	170N	4mm max (nominal)	5 min	IP44		

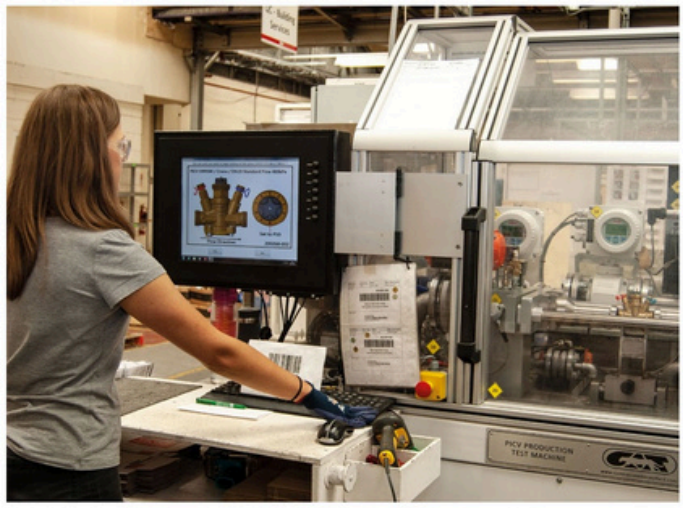
Valid as of 200922

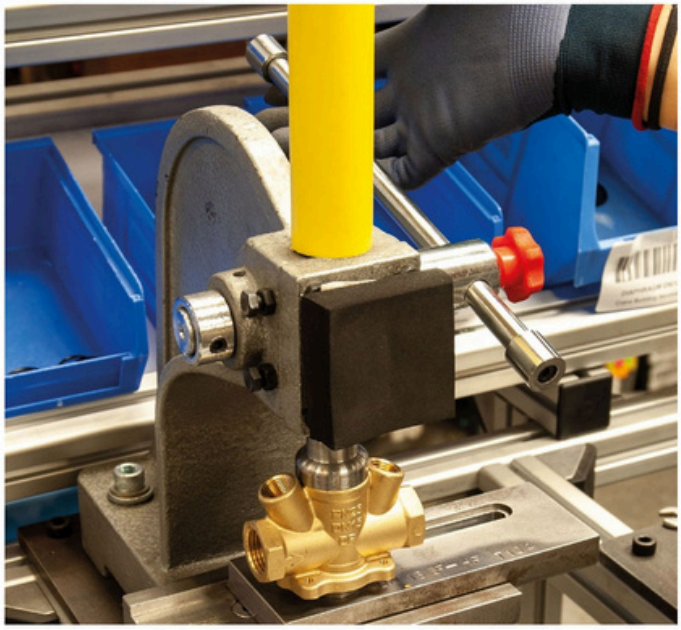
UK DESIGN & MANUFACTURE

Made in Britain

Crane Fluid Systems has a long history and rich pedigree – its origins dated back to the turn of the century when James E. Bennett established a coppersmith business in London. Today the portfolio of products and solutions has grown considerably and Crane FS is now a leading manufacturer of HVAC valves.

The new Peak Pro PICV range is made in Great Britain – designed and developed in Ipswich and manufactured in dedicated facilities in Hitchin using high-quality precision-made DZR components.





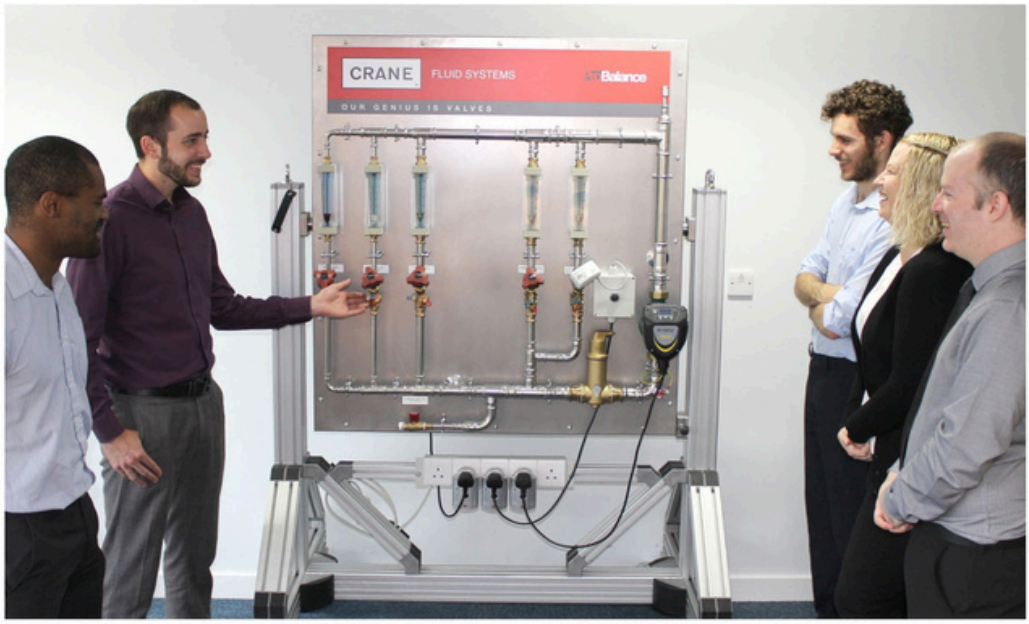
5 Step Process to Ensure Top Quality

The new Peak Pro undergoes a 5 key step process for the manufacturing build and each valve is tested in accordance with BSRIA BTS01 guidance.

1. Assembly of shell & bonnet
2. Assembly of diaphragm
3. Assembly of top valve works
4. Furness Controls Pressure Test
5. Curtis Assemble and Test

In step 4, the Furness Controls Pressure Test is looking for any leakages utilizing a pneumatic pressure decay system. All the valves are individually pressure tested to BS EN 12266-1.

Finally, in step 5, the PICV must undergo flow testing on a specially designed Curtis assembly & test performance rig. In the case of the Peak Pro PICV DN15 standard model, there are 14 key criteria in total which must all be passed. These tests cover verification of flow performance across differential pressure range and hysteresis check.



CIBSE PATRONS

Practical Training

At Crane Fluid Systems we offer fantastic practical training in the form of a live demonstration rig. These training programmes are run by our Technical Sales Manager. Often run alongside our CPD training programme these sessions are a great way for us to offer hands-on training.

- Accredited by CIBSE
- Available at customer's premises or hosted at Crane facilities
- Training day available with chosen CPD, demonstration rig and factory tour

At Crane FS we are pleased to offer an opportunity to visit our manufacturing site, based in Hitchin, Herefordshire, to view first-hand how these valves are manufactured and tested in accordance to the latest standards and professional body guidelines (e.g. BSI, BSRIA, CIBSE etc.).

A day can be organised to the customers' bespoke requirements, combing your chosen CPD session with practical experience using the training rig and a factory tour.

PROPORTIONAL BALANCING	VARIABLE VOLUME SYSTEM – UTILISING DPCVS	VARIABLE VOLUME SYSTEM – UTILISING PICVS	VARIABLE VOLUME SYSTEM UTILISING DPCVS AND PICVS (OPTION 2 AND 3 COMBINED)	SAFETY VALVES
To give an overview of Proportional Balancing within the commission process. This process applies to both constant & variable flow heating and chilled water systems.	To give an overview of Variable Volume systems within the scope of Differential Pressure Control Valves. Covers History, Application, Selection and Commissioning.	To give an overview of Variable Volume Systems within the scope of Pressure Independent Control Valves. Covers History, Application, Selection and Commissioning.	A combination of the DPCV and PICV modules.	Overview of history of NABIC Safety Valves with information on application and selections.
CIBSE Accredited (1 Hour)	**CIBSE Accredited (1.5 Hours)**	**CIBSE Accredited (1.5 Hours)**	**CIBSE Accredited (2.5 Hours)**	**CIBSE Accredited (1.5 Hours)**

UNITED POWER
COMMERCIAL CORPORATION
ESTD. 1961

DOUBLE REGULATING VALVE (DRV)

CRANE
FLUID SYSTEMS

D931 / D933 / D934

Fixed Orifice Double Regulating Valve (FODRV)

ProBalance

WRAS APPROVED PRODUCT

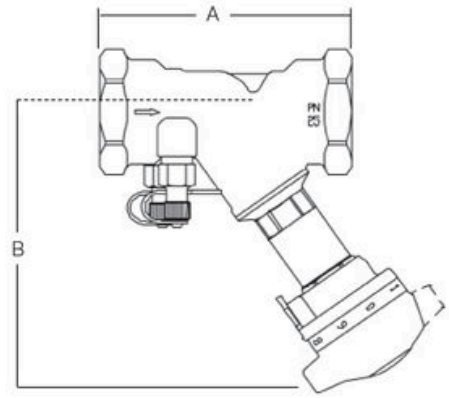
PN25

D931

Features & Benefits

- D933 size 1/2" low flow FODRV combines the functions of regulation and flow measurement in a unit of high authority making it particularly suitable for low flow applications in the range of 0.03 to 0.07 l/s
- D934 size 1/2" ultra-low flow FODRV combines the functions of regulation and flow measurement in a unit of high authority making it particularly suitable for ultra-low flow applications in the range of 0.016 to 0.04 l/s.
- The Double regulating valve, with its integral fixed orifice design offers an accuracy of ± 5% on all settings, for precise flow regulation and measurement
- The Double Regulating feature allows the valve to be used for isolation and to be reopened to its pre-set position to maintain required flow rate
- Y-Pattern globe valves having characterised throttling disc tending towards equal percentage performance
- Integral square edged entrance orifice plate and P84 insertion test points fitted Double regulating feature allows valve opening to be set with an Allen key
- Operation of the valve is by means of the Microset handwheel

Dimensional Drawing



Materials

PART	MATERIAL	SPECIFICATION
Body	Bronze	BS EN 1982 CC491K
Bonnet	DZR Copper Alloy	BS EN 12165 CW602N
Stem	DZR Copper Alloy	BS EN 12164 CW602N
Disc	DZR Copper Alloy	BS EN 12164/5 CW602N
O-Ring Seal	EPDM Rubber	
Orifice Insert	DZR Copper Alloy	BS EN 12164 CW602N
P84 Test Valve	DZR Copper Alloy	BS EN 12164 CW602N
Handwheel	Plastic	

Pressure/Temperature Ratings

Threaded

TEMPERATURE (°C)	-10 to 100	110	120
PRESSURE (BAR)	25	23.4	21.8

Compression

TEMPERATURE (°C)	-10 to 30	65	120
PRESSURE (BAR)	16	10	5

Intermediate pressure ratings shall be determined by interpolation.

Maximum temperature 120°C.

Note: In line with BS EN 1254/2, the maximum pressure must not exceed 16 bar when using compression adaptors.

WRAS approved -10 to 85˚C.

Dimensions, Coefficients & Weights

FIG. NO.	SIZE	DIMENSIONS (mm)		FULLY OPEN		KVS	WEIGHT (kg)
		A	B	FLOW (Kv)	HEAD LOSS (K)		
D931	1/2"/DN15	87	105	1.87	30.27	2.2	0.61
	3/4"/DN20	96	106	3.14	34.55	4.7	0.65
	1"/DN25	100	127	5.59	27.85	8.6	0.95
	11/4"/DN32	114	128	10.80	22.60	16.6	1.13
	11/2"/DN40	125	143	18.10	14.76	24.5	1.52
	2"/DN50	146	144	29.10	14.62	46.1	1.98
D933	1/2"/DN15	87	105	1.06	94.20	1.1	0.61
D934	1/2"/DN15	87	105	0.57	325.80	0.58	0.61

SPECIFICATION: Conforms to BS 7350*:1990

END CONNECTIONS: Sizes 1" to 2" taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21.

Sizes 1/2" & 3/4" DN15 & DN20 BS 2779 (ISO 228) parallel. Adaptor kits for use with copper tube also available.

Also available threaded to ANSI B1.20.1AT.

Order code D931AT/D933AT/D934AT.

Valid as of 260822

D921 / D923

Double Regulating Valve (DRV)

ProBalance

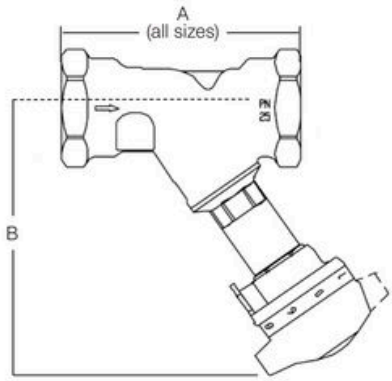
WRAS APPROVED PRODUCT

PN25

Features & Benefits

- The Double Regulating Valve offers an accuracy of ± 5% on all settings for precise flow regulation
- Y-Pattern globe valves with characterised throttling disc tending towards equal percentage performance.
- Double regulating feature allows valve opening to be set with an Allen key
- Operation of the valve is by means of the Microset handwheel
- WRAS approved.
- The D921 has sufficient authority to give effective regulation over the range of flows covered by matching flow measurement devices/valves
- The D923 low flow regulating valve has an authority matched to the range of ultra-low flows covered by the D902 flow measurement device

Dimensional Drawing



Materials

PART	MATERIAL	SPECIFICATION
Body	Bronze	BS EN 1982 CC491K
Bonnet	DZR Copper Alloy	BS EN 12165 CW602N
Stem	DZR Copper Alloy	BS EN 12165 CW602N
Disc	DZR Copper Alloy	BS EN 12165 CW602N
O-Ring Seal	EPDM Rubber	
Handwheel	Plastic	

Dimensions, Coefficients & Weights

FIG. NO.	SIZE	DIMENSIONS (mm)		FULLY OPEN		WEIGHT (kg)
		A	B	FLOW (Kv)	HEAD LOSS (K)	
D921	1/2"/DN15	87	105	2.14	23.11	0.54
	3/4"/DN20	96	106	3.61	26.14	0.58
	1"/DN25	100	127	6.37	21.45	0.88
	11/4"/DN32	114	128	12.30	17.42	1.05
	11/2"/DN40	125	143	21.30	10.66	1.43
	2"/DN50	146	144	31.30	12.63	1.88
D923	1/2"/DN15	87	105	2.26	20.72	0.54

Pressure/Temperature Ratings

Threaded

TEMPERATURE (°C)	-10 to 100	110	120
PRESSURE (BAR)	25	23.4	21.8

Compression

TEMPERATURE (°C)	-10 to 30	65	120
PRESSURE (BAR)	16	10	5

Intermediate pressure ratings shall be determined by interpolation.

Maximum temperature 120° C.

Note: In line with BS EN 1254/2 the maximum pressure must not exceed 16 bar when using compression adaptors.

WRAS approved -10 to 85°C

SPECIFICATION: Conforms to BS 7350*:1990

END CONNECTIONS: Sizes 1" to 2" taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21.
Sizes 1/2" & 3/4" DN15 & DN20 parallel threaded to BS EN ISO 228-1(formerly BS 2779).
Adaptor kits for use with copper tube also available. Also available threaded to ANSI B1.20.1.
Please add suffix AT to denote American Thread i.e. D921AT/D923AT

Vaild as of 220324

DM941 / DA941

ProBalance

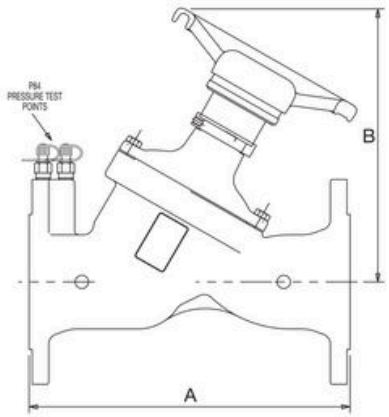
Fixed Integral Orifice Double Regulating Valve (FODRV)

DM941 PN16 / DA941 CLASS 125

Features & Benefits

- Single unit Y-Pattern globe valves incorporating an integral orifice plate to form a fixed orifice flow measurement unit with regulation and isolation capacity
- The Double Regulating feature allows the valve to be used for isolation and to be reopened to its pre-set position to maintain required flow rate
- Accuracy of flow measurement is ±5% at all open positions of the valve in accordance with BS 7350: 1990
- Primarily used in injection or other circuits requiring a double regulating valve for system balancing

Dimensional Drawing



Materials

PART	MATERIAL
Body	Ductile Iron - BS EN 1563 GJS-450-10
Bonnet	Ductile Iron - BS EN 1563 GJS-450-10
Bonnet Gasket	Non-asbestos
Disc (All sizes)	EPDM Coated Cast Iron
Disc Bush	Bronze
Stem	410 SS
Gland (65 to 150mm)	Brass
Gland (200 to 300mm)	Cast Iron
Gland Nut	Brass
Packing	Non-asbestos
Seat Ring	Bronze

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 120
PRESSURE (BAR)	16.0

Ratings align with BS EN 1092-2 PN16 (formerly BS 4504)

Dimensions & Weights

SIZE (DN)	FACE-TO-FACE A (mm)	CENTRE-TO-TOP B (mm)	WEIGHT (kg)
65	290	262	16.3
80	310	267	20.0
100	350	300	28.5
125	400	325	38.0
150	480	340	51.0
200	600	525	124.0
250	730	575	194.0
300	850	645	254.0

Coefficients*

DN (DN)	FLOW (Kv)	HEAD LOSS (K)	KVS
65	93	6.9	90
80	99	6.8	120
100	136	12.7	220
125	229	8.7	342
150	342	8.9	468
200	550	10.3	792
250	1052	6.0	1224
300	1367	7.8	1800

*Fully open position.

SPECIFICATION: Valves conform to requirements of BS 7350: 1990

END CONNECTIONS: DM941 Ends are flanged to BS EN 1092-2 (formerly BS 4504) and DA941 Ends are flanged to ANSI B16.1 Class 125

Valid as of 160418

DM925G / DM925L

ProBalance

Gearbox/Lever Operated Double Regulating Valve (DRV)

PN16

Features & Benefits

- The DM925G and DM925L Double Regulating Valves consist of a fully lugged, EPDM liner butterfly valve with a Double Regulating gearbox or lever
- The Double Regulating feature allows the valve to be used for isolation and to be reopened to its pre-set position to maintain required flow rate
- As an alternative to the DM921, the DM925G and DM925L can be used in conjunction with a flow measurement device to measure flow

Materials

PART	MATERIAL	SIZES
Body	Ductile Iron ASTM A536 65-45-12	All
Disc	Aluminium Bronze	All
Seat	EPDM	All
Shaft	Stainless Steel ASTM A532 Type 416	All
Taper Pin	Stainless Steel ASTM A276 Type 316	All
Key	Carbon Steel	All
O-Ring	Nitrile (Buna)	All
Shaft Bushing	PTFE or Bronze	All

Dimensions & Weights

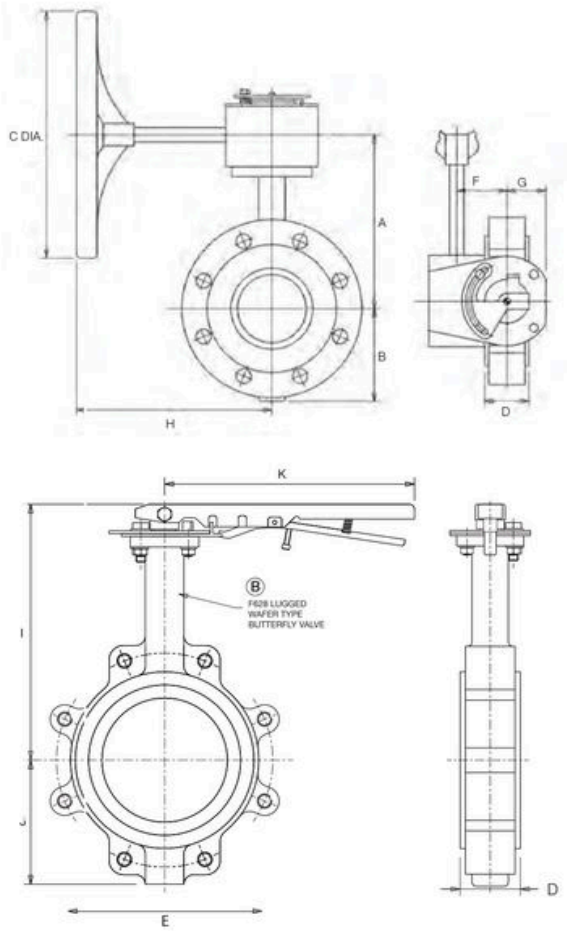
SIZE (DN)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	K (mm)	L (mm)
50	8.6	162	80	150	42	–	45	54	158	195	83	260	44
65	9.1	175	89	150	45	–	45	54	158	207	95	260	48
80	11.8	181	95	150	45	–	45	54	158	213	102	260	48
100	17.2	200	144	150	52	–	45	54	158	232	124	260	54
125	18.1	213	127	200	54	–	45	54	148	245	137	260	57
150	19.5	225	140	200	56	–	45	54	148	256	150	266	57
200	29.5	260	175	300	61	–	78	81	226	–	–	–	–
250	39.9	292	203	300	66	–	78	81	226	–	–	–	–
300	54.9	337	242	300	77	–	78	81	226	–	–	–	–
350	61.0	406	279	300	78	–	78	81	226	–	–	–	–
400	94.0	447	305	450	76	–	120	130	277	–	–	–	–
450	139.7	479	381	450	105	456	185	130	321	–	–	356	–
500	215.5	536	394	450	130	456	185	160	321	–	–	356	–
600	337.3	625	457	450	151	456	185	160	355	–	–	356	–

Coefficients*

SIZE (DN)	FLOW (Kv)	HEADLOSS (K)
50	100	1.000
65	170	0.988
80	261	0.962
100	519	0.594
125	884	0.500
150	1366	0.434
200	2713	0.348
250	4619	0.293
300	7136	0.255
350	6087	0.648
400	9010	0.505
450	10566	0.588
500	13804	0.525
600	18052	0.636

*Fully open position.

Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 130
PRESSURE (BAR)	16

Valid as of 160418

DM931 / DA931

ProBalance

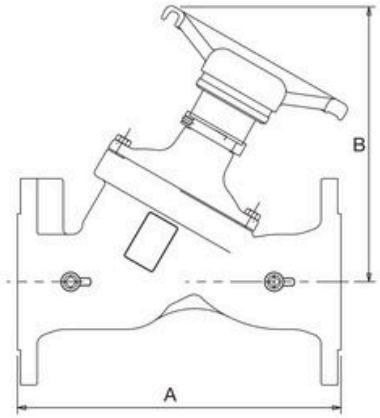
Variable Orifice Double Regulating Valves (VODRV)

PN16 / CLASS 125

Features & Benefits

- These are Y-Pattern globe valves supplied with two pressure test points P84 to provide flow measurement, regulation and isolation
- The Double Regulating feature allows the valve to be used for isolation and to be reopened to its pre-set position to maintain required flow rate
- Primarily used in injection or other circuits requiring a double regulating valve for system balancing
- Accuracy of flow measurement is ±10% at the full open position of the valve
- Some reduction in accuracy occurs at partial openings of the valve in accordance with BS 7350

Dimensional Drawing



Materials

PART	MATERIAL
Body	Ductile Iron - BS EN 1563 GJS-450-10
Bonnet	Ductile Iron - BS EN 1563 GJS-450-10
Bonnet Gasket	Non-asbestos
Disc (All sizes)	EPDM Coated Cast Iron
Disc Bush	Bronze
Stem	410 SS
Gland (65 to 150mm)	Brass
Gland (200 to 300mm)	Cast Iron
Gland Nut	Brass
Packing	Non-asbestos
Seat Ring	Bronze

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 120
PRESSURE (BAR)	16.0

Ratings align with BS EN 1092-2 PN16 (formerly BS 4504)

Dimensions & Weights

SIZE (DN)	FACE-TO-FACE A (mm)	CENTRE-TO-TOP B (mm)	WEIGHT (kg)
65	290	262	15.8
80	310	267	19.5
100	350	300	28.0
125	400	325	37.5
150	480	340	50.5
200	600	525	123.0
250	730	575	192.0
300	850	645	251.0

Coefficients*

SIZE (DN)	FLOW (Kv)	HEAD LOSS (K)
65	85	4.9
80	111	5.5
100	146	9.2
125	250	7.3
150	380	6.5
200	600	7.8
250	1211	4.6
300	1521	6.0

*Fully open position.

SPECIFICATION: Conform to requirements of BS 7350: 1990

END CONNECTIONS: DM931 Ends are flanged to BS EN 1092-2 (formerly BS 4504) and DA931 Ends are flanged to ANSI B16.1 Class 125

Valid as of 160418

DM921

ProBalance

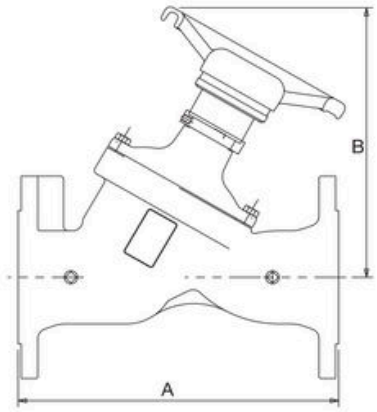
Double Regulating Valve (DRV)

PN16

Features & Benefits

- Y-Pattern globe valve with a characterised throttling disc
- The Double Regulating feature allows the valve to be used for isolation and to be reopened to its pre-set position to maintain required flow rate
- In two unit systems, the DM921 has sufficient authority to regulate flow in circuits incorporating a flow measurement device
- The valve opening may be set to control flow at a pre-determined rate
- Fitted with 2 x 1/4" BSPT plugs for conversion to DM931 if required
- Operation of the valve is by means of a hand wheel incorporating a micrometre device

Dimensional Drawing



Materials

PART	MATERIAL
Body	Ductile Iron - BS EN 1563 GJS-450-10
Bonnet	Ductile Iron - BS EN 1563 GJS-450-10
Bonnet Gasket	Non-asbestos
Disc (All sizes)	EPDM Coated Cast Iron
Disc Bush	Bronze
Stem	410 SS
Gland (65 to 150mm)	Brass
Gland (200 to 300mm)	Cast Iron
Gland Nut	Brass
Packing	Non-asbestos
Seat Ring	Bronze

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 120
PRESSURE (BAR)	16.0

Ratings align with BS EN 1092-2 PN16 (formerly BS 4504).

Dimensions & Weights

SIZE (DN)	FACE-TO-FACE A (mm)	CENTRE-TO-TOP B (mm)	WEIGHT (kg)
65	290	262	15.8
80	310	267	19.5
100	350	300	28.0
125	400	325	37.5
150	480	340	50.5
200	600	525	123.0
250	730	575	192.0
300	850	645	251.0

Coefficients*

SIZE (DN)	FLOW (Kv)	HEAD LOSS (K)
65	85	4.9
80	111	5.5
100	146	9.2
125	250	7.3
150	380	6.5
200	600	7.8
250	1211	4.6
300	1521	6.0

*Fully open position.

END CONNECTIONS:
Ends flanged to BS EN 1092-2 PN16.

Valid as of 160418

UNITED POWER
COMMERCIAL CORPORATION
ESTD. 1961

BRONZE & BRASS VALVES

CRANE
FLUID SYSTEMS

D171A

Threaded DZR Ball Valve

WRAS APPROVED PRODUCT

D171AEXS

Threaded DZR Ball Valve with Extension Stem

PN25

D171A

D171AEXS

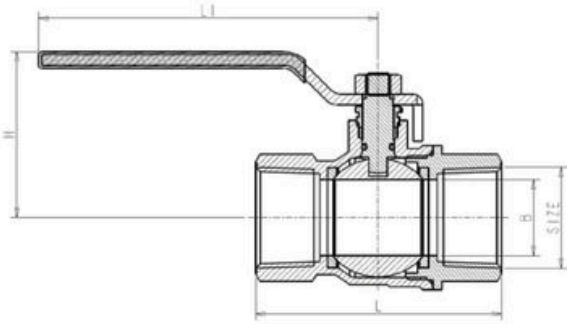
Features & Benefits

- Designed to be light, compact and easy to install and operate
- Features improved leak resistance and reduced risk of damage from over tightening
- WRAS Approved to 85°C
- Extension stem (EXS) to enable valve operation whilst the valve and associated pipework is surrounded with insulation or if the valve is in a hard to access area.
- Conforms to BS EN 13547

Materials

PART	MATERIAL	QUANTITY
Hex-Nut	Stainless Steel	1
Lever	Steel Dacromet Plated	1
Sleeve	Maroon PVC	1
Packing Nut	Brass CW614N	1
Packing Gland	PTFE WRAS approved	1
Body	DZR Brass BS EN 12165 CW602N	1
Seats	PTFE WRAS approved	2
Ball (1/2 – 2")	Stainless Steel 304 BS EN 10088-3 1.4301 / AISI 304	1
O-Ring	Rubber EPDM WRAS approved	1
Seat Retainer	DZR Brass BS EN 12165 CW602N	1
Stem	DZR Brass BS EN 12164 CW602N	1
Extension Stem Outer	Aluminium	1
Extension Stem Inner	Nickel Plated Steel	1
Adjustment Lever	Brass CW617N	1
Stem O-Ring	Rubber EPDM WRAS approved	1

Dimensional Drawing



All dimensions are nominal.

Dimensions & Weights

SIZE (inch)	WEIGHT (A) (kg)	WEIGHT (AEXS) (kg)	L (mm)	B (mm)	H (A) (mm)	H (AEXS) (mm)	L1 (mm)	KV
1/2	0.252	0.308	58.9	15.0	43.5	107.2	96	31
3/4	0.389	0.456	66.9	20.0	50.5	116.2	111	45
1	0.579	0.646	80.4	25.0	54.2	119.9	111	63
1-1/4	0.917	1.005	94	32.0	73.5	137.2	141	102
1-1/2	1.252	1.339	102	40	79	142.7	141	375
2	2.080	2.212	124	50	96.5	163.2	166	420

Pressure/Temperature Ratings

Threaded

TEMPERATURE (°C)	-10 to 100	120
PRESSURE (BAR)	25	21.8

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN25
TEMPERATURE OPERATING RANGE: -10 to 120°C
UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21
US END CONNECTION: ANSI B1.20.1:1983 (please add suffix AT to denote American Thread)
OPERATOR: Lever
SPECIFICATION: DZR Brass (CW602N) Body Ball Valve, in accordance to BS EN 13547, two-piece construction, Floating Stainless Steel SS304 Ball, Anti Blow-out stem, PTFE seats, Threaded Ends, PN25 Rated. Suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, as amended.* Not suitable for use on Group 1 Gases or unstable liquids.

Vaild as of 130325

D171

Bronze Ball Valve

WRAS APPROVED PRODUCT

D171EXS

Extended Stem Bronze Ball Valve

PN25

Features & Benefits

- **D171** Ball Valves are light, compact units which are easy to install and operate, yet their robust construction ensures long, trouble free service life.
- **D171** and **D171EXS** are WRAS approved for use on hot and cold water systems up to 85°C.
- Extension stem (EXS) to enable valve operation whilst the valve and associated pipework is surrounded with insulation or if the valve is in a hard to access area.
- Conforms to BS EN 13547

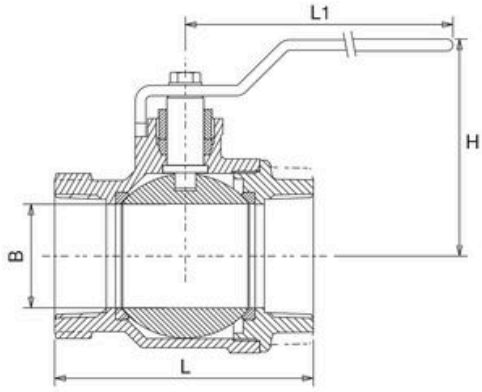
Materials

PART	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Seat Retainer	Bronze BS EN 1982 CC491K	All
Ball	DZR Brass BS EN 12165 CW602N (Chrome Plated)	1/2 - 1
Ball	Bronze BS EN 1982 CC491K (Chrome Plated)	1 1/4 - 3
Seat Ring	PTFE	All
Stem	DZR Brass BS EN 12164 CW602N	All
Packing	PTFE	All
Gland Nut	DZR Brass BS EN 12164 CW602N	1/4 - 2
Lever	Mild Steel (Zinc Plated)	All
Screw	Mild Steel (Zinc Plated)	All
Lever Cover	PVC	All
Extension Housing	Aluminium	D171EXS
Extension Stem	Brass BS EN 12164 CW617N	D171EXS

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	WEIGHT (EXS) (kg)	L (mm)	B (mm)	H (mm)	H (EXS) (mm)	L1 (mm)	KV
1/4	0.15	-	46	10.0	39	-	81	11
3/8	0.15	-	46	10.0	39	-	81	11
1/2	0.24	0.30	55	13.2	52	95	92	20
3/4	0.40	0.47	64	18.0	56	99	92	47
1	0.60	0.69	77	24.1	66	128	127	77
1-1/4	0.86	1.00	91	31.0	72	134	127	141
1-1/2	1.37	1.55	103	39.0	82	151	142	198
2	2.23	2.30	122	50.0	90	159	142	338
2-1/2	4.98	-	153	65.0	117	-	202	593

Dimensional Drawing



Pressure/Temperature Ratings

Threaded

TEMPERATURE (°C)	-10 to 100	110	120	186
PRESSURE (BAR)	25.0	23.4	21.8	10.5

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN25
TEMPERATURE OPERATING RANGE: -10 To 186°c
UK END CONNECTION: Taper Threaded To BS EN 10226-2 (Iso 7-1) Formerly BS 21
US END CONNECTION: ANSI B1.20.1(please add suffix AT to denote American Thread)
OPERATOR: Lever

SPECIFICATION: Bronze (CC491K) Body Ball Valve, in accordance to BS EN 13547, two-piece construction, Floating Chrome Plated DZR(CW602N) / Bronze(CC491K) Ball, Anti Blow-out stem, PTFE seats, Threaded Ends, PN25 Rated. Suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.* Not suitable for use on Group 1 Gases or unstable liquids.

*see Quality Assurance page for more information

Valid as of 18/11/24

D4

Bronze Globe Valve - Series B

PN20

D4

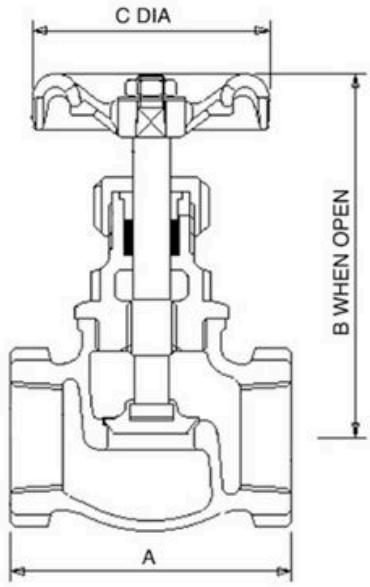
Features & Benefits

- Crane bronze globe valves are highly efficient for throttling because seat and disc designs provide flow characteristics with proportionate relationships between valve lift and flow rate
- This valve carries the British Standards Institution kitemark – your assurance of exacting quality
- Conforms with BS 5154:1991 and generally conforms with MSS SP 80.

Materials

PART	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Bonnet	Bronze BS EN 1982 CC491K	All
Disc	Brass BS EN 12164 CW614N	1/4 - 1 1/2
Disc	Bronze BS EN 1982 CC491K	2"
Stem	Brass BS EN 12164 CW614N	All
Packing	Asbestos Free	All
Gland	Brass BS EN 12164 CW614N	All
Packing Nut	Brass BS EN 12164 CW614N	All
Disc Stem Ring	Manganese Bronze BS EN 12164 CW721R	2" only
Handwheel	Aluminium	All
Handwheel Nut	Brass BS EN 12164 CW614N	All
ID Plate	Aluminium	All

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/4	0.23	44	75	52
3/8	0.22	44	75	52
1/2	0.31	55	82	52
3/4	0.42	63	89	52
1	0.71	77	102	65
1 1/4	1.12	91	118	70
1 1/2	1.5	98	134	78
2	2.48	118	171	103

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	180
PRESSURE (BAR)	20	9

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN20
TEMPERATURE OPERATING RANGE: -10 to 180°C
UK END CONNECTION:
Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21
US END CONNECTION: ANSI B1.20.1
OPERATOR: Handwheel.

SPECIFICATION: Bronze Globe Valve, Rising Stem, Screwed Bonnet, in accordance with BS 5154:1991, PN20 rated. Integral narrow contact angled body seat. Valve Body & Bonnet to Bronze to BS EN 1982 CC491K. Bronze disc on size 2". Brass Stem and Disc to CW614N. PTFE packing ring complete with Brass packing gland and nut design. BSI Kitemark approved.
MSS SP80 CONFORMANCE: D4 meets the essential requirements of the Standard such as pressure temperature rating, functional attributes, material of construction, wall thickness and thread depth. D4.AT complies with end connections as well.
The Valve is suitable for use in group 2 gases, group 1 and group 2 liquids, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

Valid as of 130825

D142

Bronze Swing Check Valve

PN32

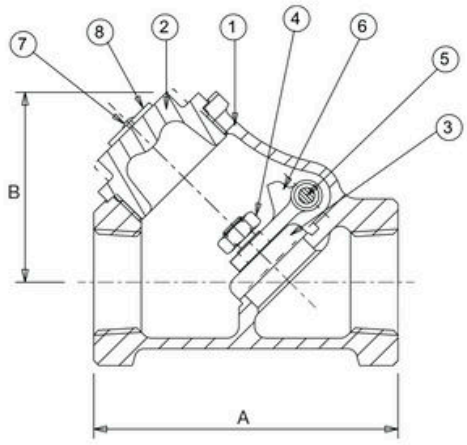
Features & Benefits

- Check valves permit flow in one direction only and close automatically if flow reverses
- D142 is a Bronze Swing Check Valve with disc seat at 45 Deg inclination to the flow path
- Conforms with BS EN12288:2010 and generally conforms with MSS SP 80.

Materials

NO.	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	
Cap	Bronze BS EN 1982 CC491K	
Disc	Brass BS EN 12164 CW721R	1/4 - 3/4"
Disc	Bronze BS EN 1982 CC491K	1 - 3"
Hinge	Nut Brass BS 2874 CZ121	
Hinge	Pin/Plug DZR Brass BS EN 12164 CW602N	
Hinge	Bronze BS EN 1982 CC491K	
Drive Pin	Steel-Electro Brassed	
ID Plate	Aluminium	

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)
1/4	0.26	54	37
3/8	0.25	54	37
1/2	0.39	62	43
3/4	0.62	76	52
1	1.07	94	65
1 1/4	1.65	110	76
1 1/2	2.56	126	89
2	4.05	152	108
2 1/2	6.4	186	134
3	9.3	218	160

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 120	260
PRESSURE (BAR)	32	14

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN32
TEMPERATURE OPERATING RANGE: -10 to 260°C
UK END CONNECTION: BS 21 Taper
US END CONNECTION: ANSI B1.20.1
OPERATOR: Swing Check, Screwed in Cap. Can be mounted vertically as long as flow is upwards

SPECIFICATION: Bronze Swing Check Valve, Screwed Cap, in accordance with BS 5154:1991, PN32 rated. Valve Body, Cap and hinge to Bronze to BS EN 1982 CC491K. Bronze disc to CC491K up to 3/4" and Manganese Bronze disc 1" to 3".
MSS SP80 CONFORMANCE: D142 meets the essential requirements of the Standard such as pressure temperature rating, functional attributes, material of construction, wall thickness and thread depth. D142.AT complies with end connections as well.
The Valve is suitable for use in group 2 gases, group 1 and group 2 liquids, as defined by the Pressure Equipment Directive 2014/68/EU.*

* See page 159 for more information

Valid as of 140921

D151X

Bronze Gate Valve
Non rising stem

PN25

D151X

Please note: the photograph & dimensional drawing denotes sizes 1/2" - 2" only.

Features & Benefits

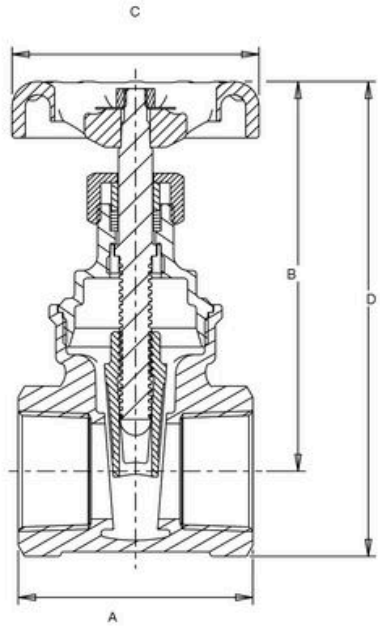
The D151X bronze gate valve offers a dependable and long service life across a wide variety of applications by virtue of its design and material composition.

- Non-rising stem design to minimise installation height
- Full bore design to ensure minimal pressure drop
- Adjustable gland packing for ease of maintenance
- Material selection results in superior dezincification (DZR) and corrosion resistance properties
- Body, bonnet and disc are made from low lead content bronze, typically 4-6%
- Conforms with BS EN12288:2010 and generally conforms with MSS SP 80.

Materials

PART	MATERIAL	SPECIFICATION	SIZES
Body	Bronze	BS EN 1982 (CC491K)	ALL
Bonnet	Bronze	BS EN 1982 (CC491K)	ALL
Stem	DZR Brass	BS EN 12164 CW602N	ALL
Disc	Bronze	BS EN 1982 (CC491K)	ALL
Stem Retainer	DZR Brass	BS EN 12164 CW602N	1/2 - 2
Stuffing Box	DZR Brass	BS EN 12164 CW602N	1/4 - 3/8, 2 1/2 - 3
Packing Ring	PTFE	-	ALL
Packing Nut	Brass	BS EN 12164 CW614N	ALL
Packing Gland	Brass	BS EN 12164 CW614N	1/4 - 3/8, 1 - 3
Handwheel	Aluminium	-	ALL
Identification Plate	Aluminium	-	ALL
Handwheel Nut	Brass	BS EN 12164 CW614N	ALL
Gasket	Asbestos Free	-	3

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	A (mm)	B (mm)	C (mm)	D (mm)	WEIGHT (kg)	KV
1/4	46	75	45	86.7	0.27	-
3/8	46	75	45	86.7	0.26	-
1/2	50	78	52.3	93.0	0.27	21
3/4	54	84	60	103	0.38	39
1	62	105	65	127	0.59	66
1 1/4	71	111	70	139	0.89	116
1 1/2	77.5	130	78	163	1.31	162
2	87.5	153	92	193	2.09	281
2 1/2	106	235	103	286.2	5.62	411
3	113	251	121	310.3	7.89	635

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 66	120	170	186
PRESSURE (BAR)	25.0	21.8	12.8	10.5

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN25

TEMPERATURE OPERATING RANGE:
-10 to 186°C

UK END CONNECTION:
FIG. D151X: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21

US END CONNECTION:
FIG. D151X.AT: ANSI B1.20.1

OPERATOR: Handwheel.
Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Bronze Gate Valve, Non-Rising Stem, Solid Wedge, Screwed Bonnet, in accordance with BS EN 12288:2010, PN25 rated. Body, Bonnet and disc to Bronze to BS EN 1982 CC491K. DZR Brass Stem to CW602N. PTFE packing ring complete with Brass packing gland and nut design.

MSS SP80 CONFORMANCE: D151X meets the essential requirements of the Standard such as pressure temperature rating, functional attributes, material of construction, wall thickness and thread depth. D151X.AT complies with end connections as well.

Suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.*

Not suitable for use on Group 1 Gases or unstable liquids.

see Quality Assurance page for more information

Valid as of 310822

D191

Threaded DZR Ball Valve

PN25

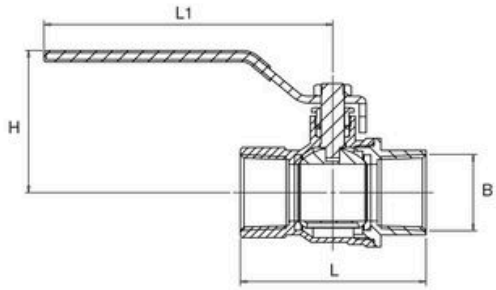
Features & Benefits

- Designed to be light, compact and easy to install and operate
- Features improved leak resistance and reduced risk of damage from over tightening
- Tested by BSI and complies with essential requirements of BS EN 331:1998
- Also suitable for natural gas applications

Materials

PART	MATERIAL
Hex-Nut	Dacromet Plated Steel
Handle Sleeve	PVC Yellow
Handle	Dacromet Plated Steel
Packing Nut	Brass CW617N
Packing Gland	PTFE (WRAS Approved)
Body	DZR Brass CW602N
Ball	DZR Brass Chrome Plated
Seats	PTFE (WRAS Approved)
O-Ring	NBR with BS EN 549 Approval
Bonnet	DZR Brass CW602N
Stem	DZR Brass CW602N

Dimensional Drawing



All dimensions are nominal.

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	L (mm)	B (mm)	H (mm)	L1 (mm)	KV
1/4	0.152	46	8.0	40.9	89.0	11
3/8	0.136	46	10.0	40.9	89.0	11
1/2	0.209	58.9	15.0	48.3	98.5	31
3/4	0.308	66.9	20.0	51.8	98.5	45
1	0.520	80.4	25.0	62.7	125.0	63
1 1/4	0.835	94.0	32.0	79.0	140.0	102
1 1/2	1.139	102.0	39.5	84.8	140.0	375
2	1.924	124.0	50.0	97.5	165.0	420

Pressure/Temperature Ratings

Non Gas application

TEMPERATURE (°C)	-10 to 100	110
PRESSURE (BAR)	25	23.5

Intermediate pressure ratings shall be determined by interpolation.

Natural Gas application

TEMPERATURE (°C)	-20 to 60
PRESSURE (BAR)	5

Intermediate pressure ratings shall be determined by interpolation. Gas approved to BS EN 331:1998

PRESSURE RATING: PN25
TEMPERATURE OPERATING RANGE: Non Gas -10 to 110°C, Gas -20 to 60°C
UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21
US END CONNECTION: ANSI B1.20.1:1983 (please add suffix AT to denote American Thread)
OPERATOR: Lever

SPECIFICATION: Quarter Turn, PTFE Seats and Stem Seal. Tested by BSI and complies with the essential requirements of BS EN 331:1998.

Valid as of 140921

D16

Bronze Globe Valve – Series A

PN32*

D16

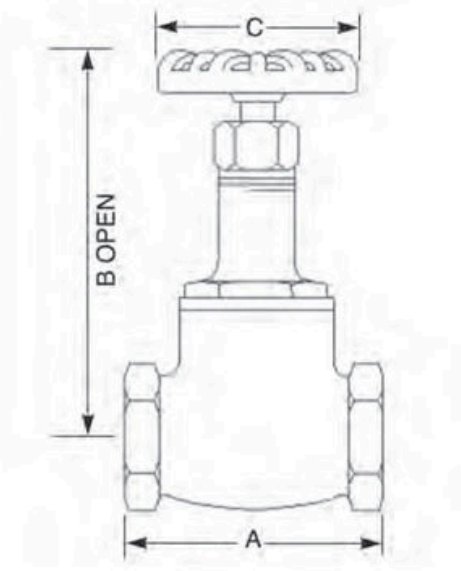
Features & Benefits

- Crane Bronze globe valves are highly efficient for throttling because seat and disc designs provide flow characteristics with proportionate relationships between valve lift and flow rate
- *Please note Sizes 2½" and 3" are rated at PN25

Materials

PART	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Bonnet	Bronze BS EN 1982 CC491K	All
Body Seat Ring	13% Cr.Steel BS970 Pt.1 410S21 or 431S29	All
Disc Stem Ring	Brass BS EN 12163 CW721R	All
Disc	13% Cr.Steel BS970 Pt.1 410S21 or 431S29	1/2 - 2
Disc	Nickel Alloy	1/4, 3/8, 2 1/2 & 3
Stem	Manganese Bronze BS EN 12163 CW721R	All
Gland	Brass BS EN 12164 CW614N	All
Packing	Asbestos Free	All
Packing Nut	Brass BS EN 12164 CW614N	1/4 - 2 1/2
Packing Nut	Bronze BS EN 1982 CC491K	3" only
Handwheel	Aluminium	1/4 - 2 1/2
Handwheel	Malleable Iron BS EN 1562 GJMB-300-6	3" only
Handwheel Nut	Brass BS EN 12164 CW614N	All
ID Plate	Aluminium	All
Gasket	Asbestos Free	2 1/2 - 3

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/4	0.33	52	100	52
3/8	0.31	52	100	52
1/2	0.8	62	101	52
3/4	1.24	74	115	52
1	1.5	90	125	70
1 1/4	1.7	100	150	70
1 1/2	2.16	115	159	92
2	3.67	136	191	103
2 1/2	6	166	220	121
3	10.9	190	255	178

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	260
PRESSURE (BAR)	32	14

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN32
TEMPERATURE OPERATING RANGE: -10 to 260°C
UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21
US END CONNECTION: ANSI B1.20.1
OPERATOR: Handwheel

SPECIFICATION: Valves are manufactured in accordance with BS 5154: 1991 Series A, PN32 for sizes 1/4" to 2" and PN25 for sizes 2 1/2" and 3".

Design incorporates a nickel alloy plug type disc retained on the stem by a threaded ring; body seat is a screwed-in stainless steel ring.

This valve is not suitable for use on group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

* See page 159 for more information

Valid as of 081220

D138

Bronze Swing Check Valve with Metal Disc

PN25

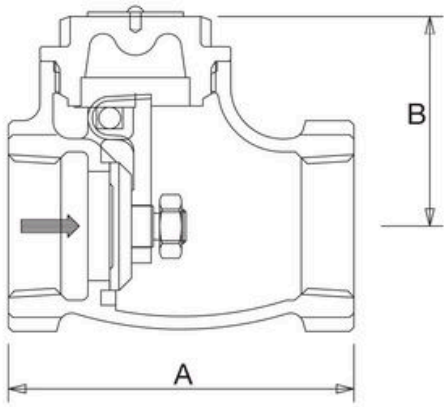
Features & Benefits

- Check valves permit flow in one direction only and close automatically if flow reverses.
- Bronze material of construction and robust design ensuring longevity
- Integral Bronze seats
- Full bore ensuring least resistance to flow

Materials

NO.	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Cap	Bronze BS EN 1982 CC491K	All
Disc	Brass BS EN 12164 CW614N	3/8 - 1
Disc	Brass BS EN 12164 CW617N	1¼ - 2
Disc	Bronze BS EN 1982 CC491K	2½ - 3
Hinge	Bronze BS EN 1982 CC491K	2½ - 3
Hinge	Brass BS EN 12164 CW617N	½ - 2
Hinge Pin	Stainless Steel SS316	3/8 - 2
Hinge Pin	Brass BS EN 12164 CW614N	2½ & 3
Hinge Nut	Brass BS EN 12164 CW614N	All
ID Plate	Aluminium	All
Drive Pin	Steel - Electro Brassed	All
Hinge Pin Plug	Brass BS EN 12164 CW614N	2½ & 3

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	Kv
3/8	0.19	50	33	-
½	0.32	59	38	8.53
¾	0.43	68	42	15.55
1	0.61	81.5	49	26.27
1¼	1.01	93.2	56	46.49
1½	1.34	98.3	65	64.77
2	2.12	110.6	76	112.24
2½	4.08	155.6	98	164.53
3	5.76	190	99	254.05

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	110	120	186
PRESSURE (BAR)	25.0	23.4	21.8	10.5

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN25
TEMPERATURE OPERATING RANGE: -10 to 186
UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21
US END CONNECTION: ANSI B1.20.1
(please add suffix AT to denote American Thread)

SPECIFICATION: Bronze Check Valves, Swing type, Full Bore, Bronze Cap & Seat. BSI Kitemark approved.
Valves are manufactured in accordance with BS5154:1991 PN25 for Series B ratings.
This valve is not suitable for use on Group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*
LEAKAGE RATE: Rate B in accordance with BS EN 12266-1.

*see Quality Assurance page for more information

Valid as of 200923

D156

Brass Gate Valve
Non rising stem

PN16

D156

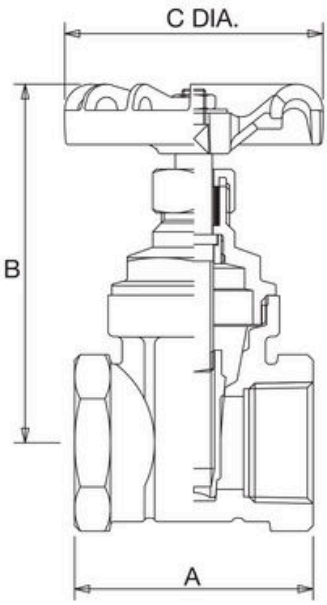
Features & Benefits

- Crane gate valves offer the ultimate in dependable service wherever minimum pressure drop is important

Materials

PART	MATERIAL	SIZES
Body	Brass BS EN 12164 CW617N	All
Bonnet	Brass BS EN 12164 CW617N	All
Stem	Brass BS EN 12165 CW617N	All
Packing Nut	Brass BS EN 12165 CW617N	All
Packing	Asbestos Free	All
Stem Bush	Brass BS EN 12165 CW617N	All
Disc	Brass BS EN 12164 CW617N	All
Handwheel	Aluminium	All
Handwheel Nut	Steel (Zinc Plated)	All

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/4	0.2	41	69	44
3/8	0.2	41	69	44
1/2	0.22	48	69	44
3/4	0.35	54	79	52
1	0.52	62	92	52
1 1/4	0.77	68	108	65
1 1/2	1.02	72	125	70
2	1.75	82	150	92
2 1/2	2.77	97	176	103
3	3.9	111	204	120
4	6.35	131	262	152

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	170
PRESSURE (BAR)	16	7

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN16
TEMPERATURE OPERATING RANGE: -10 to 170°C
UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21
US END CONNECTION: ANSI B1.20.1

OPERATOR: Handwheel.
Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.
SPECIFICATION: Valves 1/4" to 2" are manufactured in accordance with BS EN 12288: 2010 PN16 for Series B ratings. Non-Rising Stem.
Suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.*
Not suitable for use on Group 1 Gases or unstable liquids.

**see Quality Assurance page for more information*

Valid as of 310822

D298

Bronze Strainer

WRAS APPROVED PRODUCT

PN16

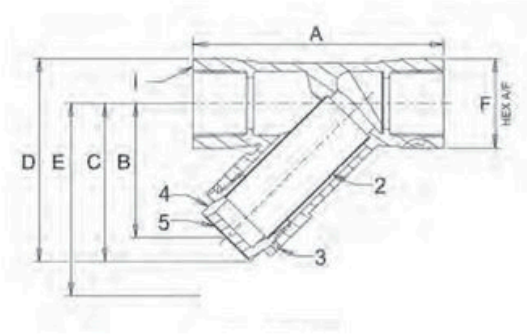
Features & Benefits

- A generous use of pipeline strainers will make a significant contribution to the reliability of a piping system and to optimise performance of the equipment - pumps, valves, flow measuring devices, traps etc
- Strainers are a low cost investment for any piping system and result in reduced maintenance costs as well as minimising 'downtime' by protecting the circuit from damage by foreign matter

Materials

NO.	PART	MATERIAL
1	Body	Bronze to BS EN 1982 CC491K
2	Mesh	Stainless Steel to A.I.S.I. Type 304
3	Cap Seal	PTFE
4	Cap	Bronze to BS EN 1982 CC491K
5	ID Plate	Aluminium

Dimensional Drawing



E = withdrawal distance for the screen

Dimensions & Weights

DN	MESH HOLE Ø (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	WEIGHT (kg)
15	0.75	58	33	40	55	62	27	0.16
20	0.75	70	42	54	69	80	33	0.28
25	0.75	88	48	60	80	93	39	0.38
32	1.4	96	55	69	95	108	49	0.64
40	1.4	107	61	76	107	118	55	0.88
50	1.4	126	79	99	135	153	67	1.40

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	170
PRESSURE (BAR)	16	7

Intermediate pressure ratings shall be determined by interpolation.

WRAS approval -10 to 85°c

PRESSURE RATING: PN16
16 bar -10° to 100°C (max)*
7 bar at 170°C
TEST PRESSURE: 24 bar hydraulic

SPECIFICATION: Bronze body. Screen 304 stainless steel.
End connections threaded to BS EN 10266 (BS 21 Taper ISO R7) & B1.20.1 ANSI.

* WRAS -10 to 85°c

Valid as of 081220

D52

Bronze Globe Valve

PN64

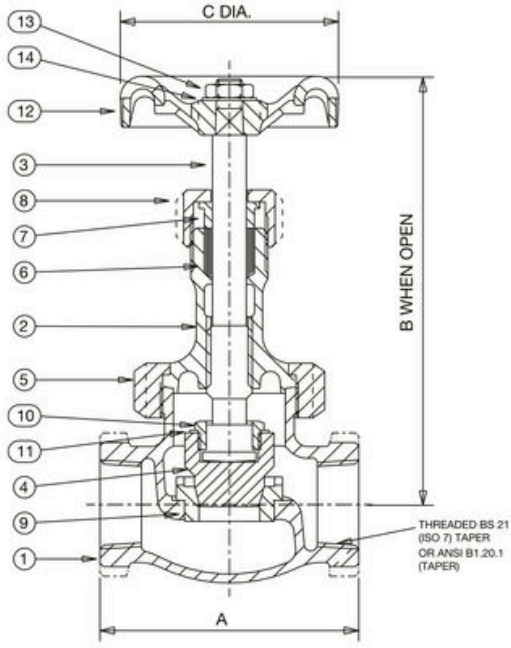
Features & Benefits

- Crane bronze globe valves are highly efficient for throttling because seat and disc designs provide flow characteristics with proportionate relationships between valve lift and flow rate.
- This valve features a renewable nickel alloy plug disc and a stainless steel seat.

Materials

NO.	PART	MATERIAL	SIZES
1	Body	Bronze BS EN 1982 CC491K	All
2	Bonnet	Bronze BS EN 1982 CC491K	All
3	Stem	Aluminium Bronze NES 834 Pt.2	All
4	Disc	Duplex Stainless Steel S32205	All
5	Union Ring	Bronze BS EN 1982 CC491K	All
5	Disc Holder	Brass BS EN 12165 CW617N	1/2 - 1
6	Packing	Asbestos Free	All
7	Gland	Brass BS EN 12164 CW614N	All
8	Packing Nut	Bronze BS EN 1982 CC491K	1 1/2 & 2
8	Packing Nut	Brass BS EN 12164 CW614N	1/2 - 1 1/4
9	Body Seat Ring	13% Cr.Steel BS 970 Pt.1 410S21	All
10	Disc Stem Ring	Aluminium Bronze NES 834 Pt.2	All
11	Disc Retaining Unit	Brass BS EN 12164 CW614N	1/2 - 2
11	Lockwasher	Brass BS EN 1652 CuZn 40Pb	All
12	Handwheel	Aluminium	1/2 - 1 1/2
12	Handwheel	Malleable Iron BS EN 1562 GJMB-300-6	2" only
13	Handwheel Nut	Brass BS EN 12164 CW614N	All
14	ID Plate	Aluminium	All

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/2	1	75	134	70
3/4	1.51	89	159	78
1	2.25	105	177	92
1 1/4	3.59	121	200	103
1 1/2	5.05	133	228	121
2	8.5	162	262	152

PRESSURE RATING: PN64

TEMPERATURE OPERATING RANGE: -10 to 288°C

UK END CONNECTION: BS 21 Taper

US END CONNECTION: Not Specified

OPERATOR: Handwheel

AVAILABLE OPTOINS: P150 Locking Device

SPECIFICATION: Valves having PN64 ratings are not specified in BS 5154. D52 valves meet the requirements of BS 5154 in respect to materials design and method of manufacture as far as applicable.

Design incorporates a Duplex Stainless Steel S32205 plug type disc retained on the stem by a threaded ring. The body seat is a screwed-in stainless steel ring.

Valves having ANSI threads also generally conform to MSS SP-80.

Not suitable for use on unstable fluids as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

Valid as of 060323

D71

Globe Valve

PN32

Features & Benefits

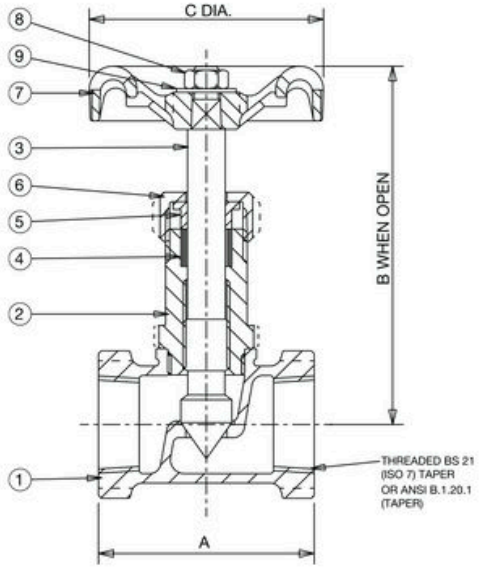
- Crane bronze globe valves are highly efficient for throttling because seat and disc designs provide flow characteristics with proportionate relationships between valve lift and flow rate.

Materials

NO.	PART	MATERIAL	SIZES
1	Body	Bronze BS EN 1982 CC491K	-
2	Bonnet	Sil. Al. Bronze BS EN 12163 CW301G	1/8 - 3/8
2	Bonnet	Brass BS EN 12164 CW614N	3/4
3	Stem	Sil. Al. Bronze BS EN 12163 CW301G	-
4	Packing*	Asbestos Free	-
5	Gland	Brass BS EN 12164 CW614N	-
6	Packing Nut	Brass BS EN 12164 CW614N	-
7	Handwheel	Aluminium	-
8	Handwheel Nut	Brass BS EN 12164 CW614N	-
9	Identity Plate	Aluminium	-

*Recommended spares

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/8	0.13	29	74	44
1/4	0.15	39	73	44
3/8	0.21	45	77	44
1/2	0.29	51	91	52
3/4	0.46	58	104	65

PRESSURE RATING: PN32
TEMPERATURE OPERATING RANGE:
32 Bar at -10 to 100°C
14 Bar at 198°C
END CONNECTION: Threaded BS 21 or ANSI B1.20.1

SPECIFICATION: Valve are manufactured in accordance with BS 5154 PN32 for Series B ratings. The needle disk is an integral part of the stem, and body seat is integral.

Valid as of 190321

D142

Bronze Swing Check Valve

PN32

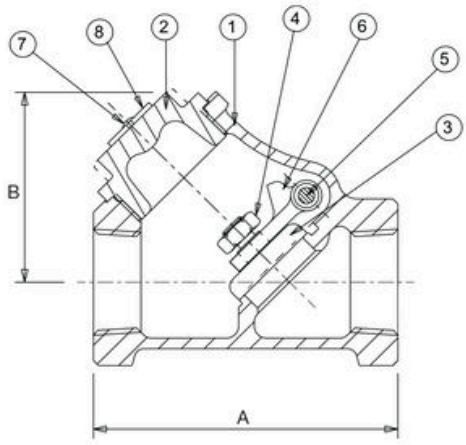
Features & Benefits

- Check valves permit flow in one direction only and close automatically if flow reverses
- D142 is a Bronze Swing Check Valve with disc seat at 45 Deg inclination to the flow path
- Conforms with BS EN12288:2010 and generally conforms with MSS SP 80.

Materials

NO.	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	
Cap	Bronze BS EN 1982 CC491K	
Disc	Brass BS EN 12164 CW721R	1/4 - 3/4"
Disc	Bronze BS EN 1982 CC491K	1 - 3"
Hinge	Nut Brass BS 2874 CZ121	
Hinge	Pin/Plug DZR Brass BS EN 12164 CW602N	
Hinge	Bronze BS EN 1982 CC491K	
Drive Pin	Steel-Electro Brassed	
ID Plate	Aluminium	

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)
1/4	0.26	54	37
3/8	0.25	54	37
1/2	0.39	62	43
3/4	0.62	76	52
1	1.07	94	65
1 1/4	1.65	110	76
1 1/2	2.56	126	89
2	4.05	152	108
2 1/2	6.4	186	134
3	9.3	218	160

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 120	260
PRESSURE (BAR)	32	14

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN32
TEMPERATURE OPERATING RANGE: -10 to 260°C
UK END CONNECTION: BS 21 Taper
US END CONNECTION: ANSI B1.20.1
OPERATOR: Swing Check, Screwed in Cap. Can be mounted vertically as long as flow is upwards

SPECIFICATION: Bronze Swing Check Valve, Screwed Cap, in accordance with BS 5154:1991, PN32 rated. Valve Body, Cap and hinge to Bronze to BS EN 1982 CC491K. Bronze disc to CC491K up to 3/4" and Manganese Bronze disc 1" to 3".
MSS SP80 CONFORMANCE: D142 meets the essential requirements of the Standard such as pressure temperature rating, functional attributes, material of construction, wall thickness and thread depth. D142.AT complies with end connections as well.
The Valve is suitable for use in group 2 gases, group 1 and group 2 liquids, as defined by the Pressure Equipment Directive 2014/68/EU.*

* See page 159 for more information

Valid as of 140921

D151

Bronze Gate Valve
Non rising stem

WRAS APPROVED PRODUCT

Sizes 1/2"-2" only

PN20

Features & Benefits

- Crane gate valves offer the ultimate in dependable service wherever minimum pressure drop is important
- The D151 carries the British Standards Institution kitemark - your assurance of exacting quality standards
- WRAS approved for use on wholesome (potable) water in sizes 1/2" – 2" only. WRAS approval temperature 85°C max
- Non-rising stem design to minimise installation height
- Full bore design to ensure minimal pressure drop
- Adjustable gland packing for ease of maintenance
- Body, bonnet and disc are made from low lead content bronze, typically 4-6%
- Conforms with BS EN12288:2010 and generally conforms with MSS SP 80.

Materials

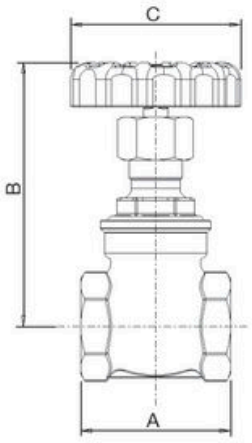
PART	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Bonnet	Bronze BS EN 1982 CC491K	All
Stem	DZR Brass BS EN 12164 CW602N	1/4 - 3
Stem	Manganese Bronze	4
Disc	Bronze BS EN 1982 CC491K	All
Stem Retainer	DZR Brass BS EN 12164 CW602N	1/2 - 2
Stuffing Box	DZR Brass BS EN 12164 CW602N	1/4, 3/8, 2 1/2 & 3
Stuffing Box	Bronze BS EN 1982 CC491K	4
Packing	Asbestos Free	All
Packing Gland	Brass BS EN 12164 CW614N	1/4, 3/8, 1 - 3
Packing Gland Nut	Brass BS EN 12164 CW614N	1/2 & 3/4
Packing Gland	Bronze BS EN 1982 CC491K	4
Packing Nut	Brass BS EN 12164 CW614N	1/4 - 3
Packing Nut	Bronze BS EN 1982 CC491K	4
Handwheel	Aluminium	1/4 - 3
Handwheel	Malleable Iron BS EN 1562 GJMB-300-6	4
ID Plate	Aluminium	All
Handwheel Nut	Brass BS EN 12164 CW614N	All
Gasket	Asbestos Free	3 - 4

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	180
PRESSURE (BAR)	20	8

Intermediate pressure ratings shall be determined by interpolation.

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/4	0.27	46	75	45
3/8	0.26	46	75	45
1/2	0.269	50	78	52.5
3/4	0.384	54	84	52.5
1	0.593	62	105	65
1 1/4	0.844	71	111	70
1 1/2	1.266	77.5	130	78
2	1.881	87.5	153	92
2 1/2	4.37	96	219	121
3	6.4	105	259	121
4	19.7	162	366	203

PRESSURE RATING: PN20
TEMPERATURE OPERATING RANGE: -10 to 180°C
UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21
US END CONNECTION: ANSI B1.20.1
OPERATOR: Handwheel.
Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Bronze Gate Valve, Non-Rising Stem, Solid Wedge, Screwed Bonnet, in accordance with BS EN 12288:2010, PN20 rated. Body, Bonnet and disc to Bronze to BS EN 1982 CC491K. DZR Brass Stem to CW602N. PTFE packing ring complete with Brass packing gland and nut design. WRAS approved and BSI Kitemark approved.
MSS SP80 CONFORMANCE: D151 meets the essential requirements of the Standard such as pressure temperature rating, functional attributes, material of construction, wall thickness and thread depth. D151.AT complies with end connections as well.
Suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.*
Not suitable for use on Group 1 Gases or unstable liquids.

**see Quality Assurance page for more information*

Valid as of 310822

D159

Bronze Gate Valve
Non rising stem

PN32

D159

Please note: the photograph & dimensional drawing denotes sizes 1/2" - 2" only.

Features & Benefits

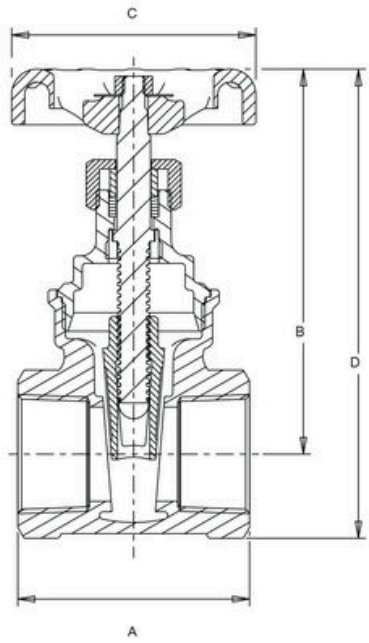
The D159 bronze gate valve offers a dependable and long service life across a wide variety of applications by virtue of its design and material composition.

- Non-rising stem design to minimise installation height
- Full bore design to ensure minimal pressure drop
- Adjustable gland packing for ease of maintenance
- Material selection results in superior dezincification (DZR) and corrosion resistance properties
- Body, bonnet and disc are made from low lead content bronze, typically 4-6%

Materials

PART	MATERIAL	SPECIFICATION	SIZES
Body	Bronze	BS EN 1982 (CC491K)	ALL
Bonnet	Bronze	BS EN 1982 (CC491K)	ALL
Stem	DZR Brass	BS EN 12164 CW602N	ALL
Disc	Bronze	BS EN 1982 (CC491K)	ALL
Stem Retainer	DZR Brass	BS EN 12164 CW602N	1/2 - 2
Stuffing Box	DZR Brass	BS EN 12164 CW602N	1/4 - 3/8, 2 1/2 - 3
Packing Ring	PTFE	-	ALL
Packing Nut	Brass	BS EN 12164 CW614N	ALL
Packing Gland	Brass	BS EN 12164 CW614N	1/4, 3/8, 1/2, 1 - 3
Handwheel	Aluminium	-	ALL
Identification Plate	Aluminium	-	ALL
Handwheel Nut	Brass	BS EN 12164 CW614N	ALL
Gasket	Asbestos Free	-	3

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	A (mm)	B (mm)	C (mm)	D (mm)	WEIGHT (kg)	KV
1/4	46	75	45	86.7	0.36	-
3/8	46	75	45	86.7	0.36	-
1/2	50	78	52.3	93	0.27	21
3/4	54	84	60	103	0.38	39
1	62	105	65	127	0.59	66
1 1/4	71	111	70	139	0.84	116
1 1/2	77.5	130	78	163	1.31	162
2	87.5	153	92	193	2.09	281
2 1/2	105	232	103	283.2	5.62	411
3	111	264	121	323.3	7.89	635

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	198
PRESSURE (BAR)	32	14

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN32
TEMPERATURE OPERATING RANGE: -10 to 198°C
UK END CONNECTION: FIG. D159: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21
US END CONNECTION: FIG. D159.AT: ANSI B1.20.1

OPERATOR: Handwheel.
Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.
SPECIFICATION: The valve body, bonnet and disc shall be of Bronze to BS EN 1982 CC491K. The stem shall be of DZR Brass to BS EN 12164 CW602N. Operation shall be by hand wheel. Ends to be threaded to BS EN 10226-2. The valve is to be rated at PN32 and manufactured in accordance with BS EN 12288: 2010.
Suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.*
Not suitable for use on Group 1 Gases or unstable liquids.

see Quality Assurance page for more information

Valid as of 310822

D166

Bronze Gate Valve
Rising stem

PN32

D166

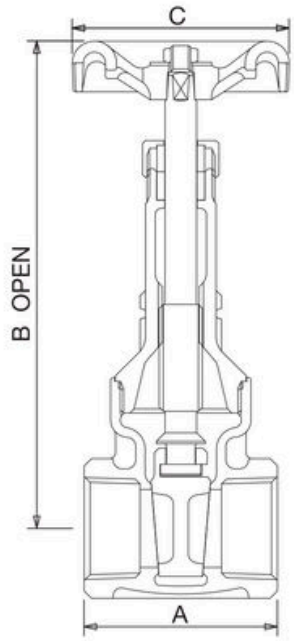
Features & Benefits

- Crane gate valves offer the ultimate in dependable service wherever minimum pressure drop is important

Materials

PART	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Bonnet	Bronze BS EN 1982 CC491K	All
Stem	Bronze BS EN 1982 CC491K	1/4 - 2
Stem	Bronze BS EN 1982 CC491K	All
Disc	Bronze BS EN 1982 CC491K	All
Packing	Asbestos Free	All
Gland	Brass BS EN 12164 CW614N	All
Packing Nut	Brass BS EN 12164 CW614N	1/4 - 2
Packing Nut	Bronze BS EN 1982 CC491K	2 1/2 & 3
Handwheel	Aluminium	All
ID Plate	Aluminium	All
Handwheel Nut	Brass BS EN 12164 CW614N	All

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/4	0.32	46	126	45
3/8	0.31	46	126	45
1/2	0.46	51	129	52
3/4	0.72	55	159	65
1	1.1	63	189	70
1 1/4	1.5	71	219	78
1 1/2	2.25	73	246	92
2	3.2	84	301	92
2 1/2	5.8	105	369	134
3	8.52	111	416	134

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	198
PRESSURE (BAR)	32	14

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN32
TEMPERATURE OPERATING RANGE: -10 to 198°C
UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21
US END CONNECTION: ANSI B1.20.1

OPERATOR: Handwheel.
Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.
SPECIFICATION: Valves are manufactured in accordance with BS EN 12288: 2010 PN32 for Series B ratings. Rising Stem.
This valves is suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended. *
Not suitable for use on Group 1 Gases or unstable liquids.

see Quality Assurance page for more information

Vaild as of 020922

D180

Bronze Gate Valve
Rising stem

PN32

D180

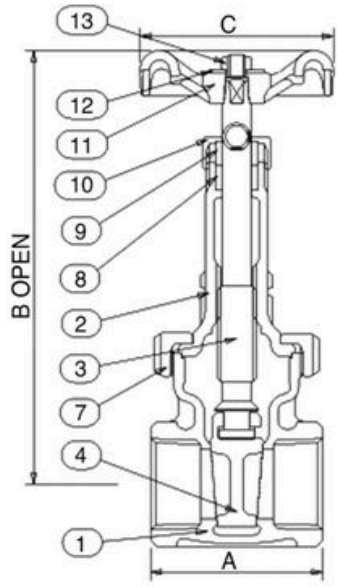
Features & Benefits

- Crane gate valves offer the ultimate in dependable service wherever minimum pressure drop is important
- Conforms with BS EN12288:2010 and generally conforms with MSS SP 80.

Materials

PART	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Bonnet	Bronze BS EN 1982 CC491K	All
Stem	Bronze BS EN 1982 CC491K	1/4 - 2
Stem	Bronze BS EN 12164 CW602N	2 1/2 & 3
Disc	Bronze BS EN 1982 CC491K	All
Union Ring	Bronze BS EN 1982 CC491K	1/4 - 2 only
Packing	Asbestos Free	All
Gland	Brass BS EN 12164 CW614N	All
Packing Nut	Brass BS EN 12164 CW614N	1/4 - 2
Packing Nut	Bronze BS EN 1982 CC491K	2 1/2 & 3
Handwheel	Aluminium	1/4 - 2
Handwheel	Malleable Iron BS EN 1562 GJMB-300-6	2 1/2 & 3
ID Plate	Aluminium	All
Handwheel Nut	Brass BS EN 12164 CW614N	All
Stud	Steel BS 970 070M20	2 1/2 & 3" only
Stud Nut	Steel BS 4190 Gr.4	2 1/2 & 3" only
Gasket	Asbestos Free	2 1/2 & 3" only

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/4	0.32	46	126	45
3/8	0.31	46	126	45
1/2	0.46	51	129	52
3/4	0.72	55	159	65
1	1.1	63	189	70
1 1/4	1.5	71	219	78
1 1/2	2.3	73	246	92
2	3.2	83	301	92
2 1/2	5.8	120	369	134
3	8.5	134	416	134

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 120	260
PRESSURE (BAR)	32	14

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN32
TEMPERATURE OPERATING RANGE: -10 to 260°C
UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21
US END CONNECTION: ANSI B1.20.1

OPERATOR: Handwheel.
Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.
SPECIFICATION: Bronze Gate Valves Rising Stem, Solid Wedge, Union Bonnet, in accordance with BS EN 12288:2010 PN32 rated complete with Backseating feature. Valve Body, Bonnet and disc to Bronze to BS EN 1982 CC491K. Bronze Stem up to 2" and DZR Brass Stem for sizes 2.1/2" & 3". PTFE packing ring complete with Brass packing gland and nut design.
MSS SP80 CONFORMANCE: D180 complies with MSS SP 80, however, valve markings and threaded ends confirms with BS EN 12288:2010 only. D180.AT complies with threaded ends as well.
This valves is suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.*
Not suitable for use on Group 1 Gases or unstable liquids.

**see Quality Assurance page for more information*

Valid as of 020922

D297

Strainer

WRAS APPROVED PRODUCT

PN32

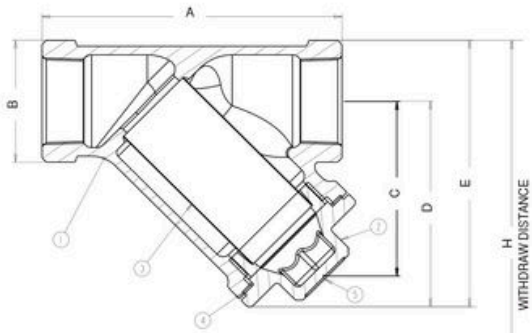
Features & Benefits

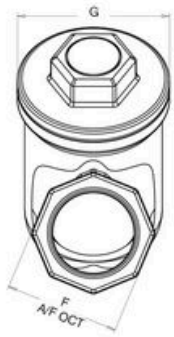
- Eliminate the problems caused by foreign matter within piping systems
- Perforated stainless steel screen with robust design, low flow resistance and high quality materials
- WRAS approved for use on hot and cold water systems up to 85˚C
- 0.75mm screen perforations

Materials

PART	MATERIAL	SPECIFICATION
Body	Bronze	BS EN 1982 CC491K
Cap	Bronze	BS EN 1982 CC491K
Strainer Mesh	Stainless Steel	Type 304
Gasket	Klingersil	C4430
ID Plate	Anodised Aluminium	

Dimensional Drawing





Dimensions & Weights

SIZE (inch)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (Rc)	Kv	WEIGHT (kg)
1/2	71	29	42	49	63	27	35	144	4.4	0.27
3/4	86	35	51	60	77	33	44	176	9.5	0.44
1	101	45	55	67	90	42	54	202	16.5	0.78
1 1/4	134	54	80	93	120	50	63	294	24.5	1.30
1 1/2	148	63	87	103	134	58	73	322	30.8	1.81
2	176	77	98	119	157	71	93	367	55.6	3.10

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	130	15	180	200
PRESSURE (BAR)	32	26.5	22.8	17.4	14

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN32
TEMPERATURE OPERATING RANGE: -10 to 200°C
UK END CONNECTION:
Taper threaded to BS EN 10226-2
US END CONNECTION: ANSI B1.20.1

SPECIFICATION: Strainers fitted with stainless steel perforated strainer element with 0.75mm diameter holes. Screens fitted into Crane Strainers conform to the high standards of materials and workmanship associated with all Crane products.
This strainer is not suitable for use on Group 1 gases, Group 2 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

Valid as of 081220

UNITED POWER
COMMERCIAL CORPORATION
ESTD. 1961

CAST IRON VALVES

CRANE
FLUID SYSTEMS

F53

Cast Iron Gate Valve
Non rising Stem

Class 125

F53

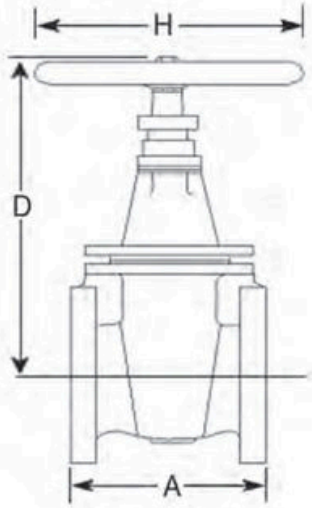
Features & Benefits

- Crane cast iron gate valves offer the ultimate in dependable service wherever minimum pressure drop is important

Materials

PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 GJL-250	All
Bonnet	Cast Iron BS EN 1561 GJL-250	All
Bonnet Gasket	Asbestos Free	All
Disc	Cast Iron BS EN 1561 GJL-250	All
Stem	Brass BS EN 12164: CW603N	2-10
Stem	Stainless Steel BS EN 10088-3 1.4006 (SS410) / Brass BS EN 12164: CW603N	12
Stuffing Box	Cast Iron BS EN 1561 GJL-250	All
Gland	Cast Iron BS EN 1561 GJL-250	All
Stuffing Box Gasket	Asbestos Free	All
Packing	Asbestos Free	All
Handwheel	Cast Iron	All
Body Seat Ring	Bronze BS EN 1982 CC491K	All
Disc Stem Nut	Bronze BS EN 1982 CC491K	All
Disc Ring	Bronze BS EN 1982 CC491K	All

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	D (mm)	H (mm)
2	12.7	178	277	140
2 1/2	15.8	190	296	140
3	19.5	203	337	152
4	29.3	229	369	203
5	39.5	254	429	229
6	45.8	267	470	229
8	84	292	600	305
10	148	330	722	356
12	198	356	818	406

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 65	230
PRESSURE (BAR)	13.8	8.6

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: Class 125
TEMPERATURE OPERATING RANGE: -10 to 230°C
US END CONNECTION: ANSI Class 125
OPERATOR: Handwheel.
Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Valves are manufactured in accordance with BS 5150:1990. End flanges conform to BS 1560 Section 3.2/ANSI B16.1 Class 125 with flat face and are normally supplied drilled.

Wedge Disc, Non-Rising Stem, Inside Screw, Bronze Trim. This valve is not suitable for use on group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

AVAILABLE OPTIONS: Flanges Undrilled

* See page 159 for more information

Valid as of 081220

F58

Cast Iron Gate Valve
Rising Stem

Class 125

F58

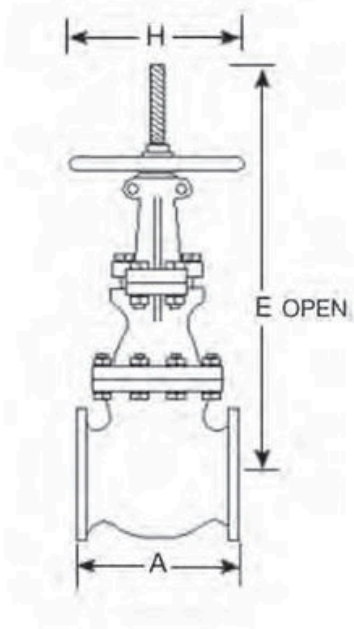
Features & Benefits

- Crane cast iron gate valves offer the ultimate in dependable service wherever minimum pressure drop is important
- Rising stem gives visual indication of valve open position

Materials

PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 GJL-250	All
Bonnet	Cast Iron BS EN 1561 GJL-250	All
Disc	Cast Iron BS EN 1561 GJL-250	All
Stem	13% Cr.Steel BS 970 Pt.1 410S21 or 431S29	All
Body Seat Ring	Bronze BS EN 1982 CC491K	All
Disc Ring	Bronze BS EN 1982 CC491K	All
Yokesleeve	Bronze BS EN 1982 CC491K	All
Yokesleeve Nut	Ductile Iron ASTM A536 65-45-12	2, 3, 5, 8 & 10
Yokesleeve Nut	Cast Iron BS EN 1561 GJL-250	2 1/2, 4, 6 & 12
Yokesleeve Ret'g Nut	Ductile Iron ASTM A536 65-45-12	2, 3, & 5
Yokesleeve Ret'g Nut	Cast Iron BS EN 1561 GJL-250	2 1/2, 4, 6 & 12
Disc Stem Nut	Bronze BS EN 1982 CC491K	All
Gland	Cast Iron BS EN 1561 GJL-250	All
Packing	Asbestos Free	All
Gasket	Asbestos Free	All
Yoke	Cast Iron BS EN 1561 GJL-250	8, 10 & 12
Handwheel	Malleable Iron BS EN 1562 GJMB-300-6	All

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	E (mm)	H (mm)
2	17	178	365	152
2 1/2	20	190	448	152
3	28	203	481	203
4	38	229	622	229
5	56	254	672	254
6	60	267	835	254
8	112	292	989	305
10	185	330	1208	356
12	242	356	1469	406

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 65	230
PRESSURE (BAR)	13.8	8.6

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: Class 125
TEMPERATURE OPERATING RANGE: -10 to 230°C
US END CONNECTION: ANSI Class 125
OPERATOR: Handwheel.
Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Valves are manufactured in accordance with BS 5150: 1990. End flanges conform to BS 1560 section 3.2/ANSI B16.1 Class 125 with flat face and are normally supplied drilled. Wedge Disc, Rising Stem, Outside Screw and Yoke.

This valve is not suitable for use on group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

AVAILABLE OPTIONS: Flanges Undrilled. P50 Locking Device

* See page 159 for more information

Valid as of 081220

F84

Cast Iron Gate Valve
Rising Stem

Class 125

F84

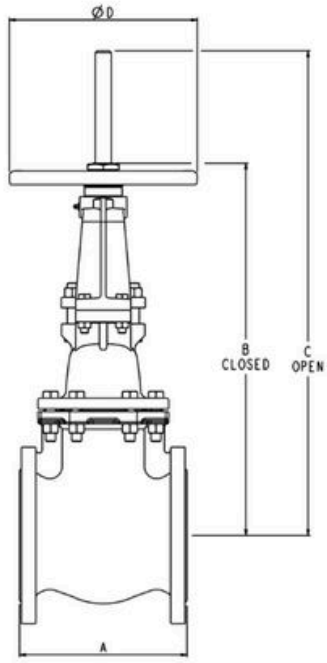
Features & Benefits

- Crane cast iron gate valves offer the ultimate in dependable service wherever minimum pressure drop is important
- Manufactured in accordance with BS 5150:1990 and generally compliant with MSS SP 70.
- Rising stem gives visual indication of valve open position

Materials

PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 EN-GJL-250	2 - 8
Body	Ductile Iron BS EN 1563 EN-GJS-450-10 (ASTM A536 65-45-12)	10 - 12
Bonnet	Cast Iron BS EN 1561 EN-GJL-250	2 - 8
Bonnet	Ductile Iron BS EN 1563 EN-GJS-450-10 (ASTM A536 65-45-12)	10 - 12
Disc	Cast Iron BS EN 1561 EN-GJL-250	2 - 8
Disc	Ductile Iron BS EN 1563 EN-GJS-450-10 (ASTM A536 65-45-12)	10 - 12
Stem	ASTM B16 - C36000	2 - 12
Body Seat Ring	Bronze BS EN 1982 CC491K	2 - 12
Disc Seat Ring	Bronze BS EN 1982 CC491K	2 - 12
Yoke	Cast Iron BS EN 1561 EN-GJL-250	6 - 10
Yoke	Ductile Iron BS EN 1563 EN-GJS-450-10 (ASTM A536 65-45-12)	12
Yoke Hub Bolts / Nuts	Steel Grade 8 / 8.8	2 - 12
Yoke Pad Bolts / Nuts	Steel Grade 8 / 8.8	6 - 12
Yoke Sleeve	Bronze BS EN 1982 CC491K	2 - 12
Yoke Sleeve H/W Nut	Ductile Iron BS EN 1563 EN-GJS-450-10 (ASTM A536 65-45-12)	2 - 12
Yoke Sleeve Ret. Nut	Ductile Iron BS EN 1563 EN-GJS-450-10 (ASTM A536 65-45-12)	8 - 12
Glange Flange / Gland	Ductile Iron BS EN 1563 EN-GJS-450-10 (ASTM A536 65-45-12)	2 - 12
Gland Bolts	Steel Grade 8 / 8.8	2 - 12
Packing	Asbestos Free	2 - 12
Gasket (Body/Bonnet)	Asbestos Free	2 - 12
Bonnet Bolts / Nuts	Steel Grade 8 / 8.8	2 - 12
Handwheel	Cast Iron BS EN 1561 EN-GJL-250	2 - 10
Handwheel	Ductile Iron BS EN 1563 EN-GJS-450-10 (ASTM A536 65-45-12)	12
Body Plate	Anodised Aluminium	2 - 12

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)
2	16	178	300	363	152
2½	20	190	322	394	152
3	26	203	384	473	203
4	37	229	450	562	229
5	50	254	523	664	254
6	61	267	608	761	254
8	102	292	757	981	305
10	168	330	921	1199	356
12	230	356	993	1303	400

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 65	230
PRESSURE (BAR)	13.8	8.6

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: Class 125
TEMPERATURE OPERATING RANGE: -10 to 230°C
US END CONNECTION: ANSI Flanged
OPERATOR: Handwheel.

SPECIFICATION: Iron Gate Valves, with IBBM - Iron Body, Bronze Mounted, with Iron Bonnet, Disc, Bronze CC491K Seat Ring, Bronze Yoke-Sleeve, Brass Stem, designed to BS 5150 and generally compliant with MSS SP-70. End Flanges conform to BS 1560 Section 3.2/ANSI B16.1 Class 125 with flat face.

This valve is not suitable for use on group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.* Valves tested in accordance with BS EN 12266-1: 2003.

*see Quality Assurance page for more information

Valid as of 050624

F372

Cast Iron Globe Valve

Class 125

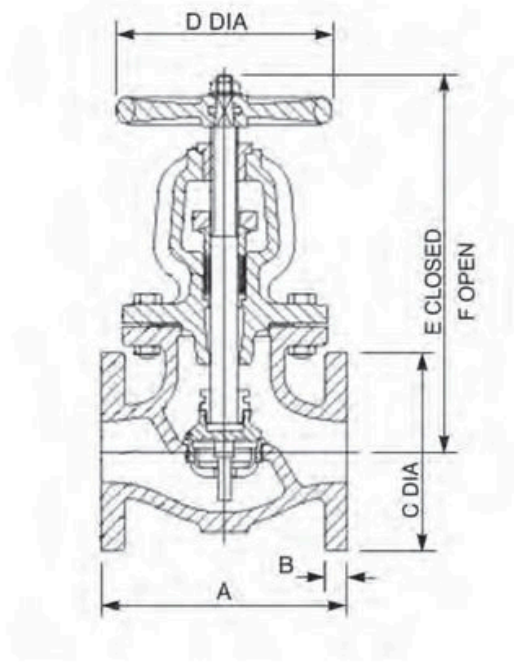
Features & Benefits

- Crane cast iron globe valves are highly efficient for throttling because seat and disc designs provide flow characteristics with proportionate relationships between valve lift and flow rate

Materials

PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 GJL-250	All
Bonnet	Cast Iron BS EN 1561 GJL-250	All
Disc Guide Pin	Brass BS EN 12164 CW721R	5 & 6
Gland	Brass BS EN 12164 CW614N	All
Gland Flange	Malleable Iron BS EN 1562 GJMB-300-6	All
Gasket	Asbestos Free	All
Disc Stem Ring	Brass BS EN 12164 CW721R	All
Lockwasher	Brass BS EN 1652	All
Disc	Bronze BS EN 1982 CC491K	All
Body Seat Ring	Bronze BS EN 1982 CC491K	All
Stem	Brass BS EN 12164 CW721R	All
Packing	Asbestos Free	All
Yoke Bushing	Brass BS EN 12164 CW721R	All
Handwheel	Malleable Iron BS EN 1562 GJMB-300-6	All

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
2	23.1	203	16	152	203	310	335
$2^1/2$	27.2	216	17	178	203	330	356
3	34.5	241	19	191	229	362	392
4	54.4	292	24	229	254	416	446
5	70.8	330	24	254	305	457	489
6	95.3	356	25	279	305	476	516

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 65	150	230
PRESSURE (BAR)	13.8	11.4	8.6

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: Class 125
TEMPERATURE OPERATING RANGE: -10 to 230°C
US END CONNECTION: ANSI Class 125
OPERATOR: Handwheel
AVAILABLE OPTOINS: Flanges Undrilled

SPECIFICATION: Valves are manufactured in accordance with BS 5152: 1974 and also meet the requirements of MSS.SP-85: 2002.

End flanges conform to BS 1560 Section 3.2/ANSI B16.1 Class 125 with Flat Face and are normally supplied drilled.

Valves detailed on this page are dimensioned in metric terms.

This valve is not suitable for use on Group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

* See page 159 for more information

Valid as of 290719

F493

Cast Iron Swing Check Valve

Class 125

F493

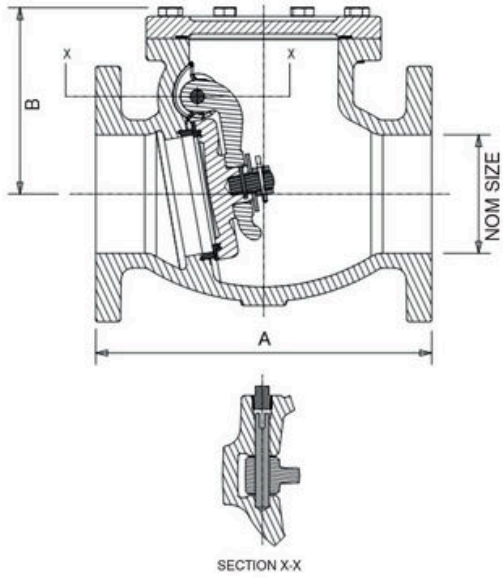
Features & Benefits

- Check valves permit flow in one direction only and close automatically if the flow reverses.
- Entirely automatic in action, depending upon pressure and velocity of flow within the line to perform their functions of opening and closing
- The F493 is a swing check valve with a Bronze trim
- Manufactured to BS EN 16767
- Fusion Bonded Epoxy coating suitable for C3 environment

Materials

PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 GJL-250	All
Cap	Cast Iron BS EN 1561 GJL-250	All
Disc	Cast Iron BS EN 1561 GJL-250	All
Body Seat Ring	Bronze BS EN 1982 CC491K	All
Disc Ring	Bronze BS EN 1982 CC491K	All
Hinge	Ductile Iron BSEN1563 EN-GJS-450-10	All
Hinge Pin Plug	Brass BS2874 C2122	All
Hinge Pin	Stainless Steel Type 304	All
Cap Bolts	Steel BS970 43A	All
Gasket	Asbestos Free	All
Body Plate	Aluminium	All

Dimensional Drawing



SECTION X-X

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	Kv
2	10.4	203	103	123.70
2 1/2	14.2	216	120	208.90
3	19.0	241	141	316.40
4	33.3	292	162	494
5	49.0	330	187	772
6	63.6	356	211	1111.80
8	112.0	495	270	1976.50
10	189.5	622	316	3088.30
12	247.0	698	357	4447.10

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 65	150	230
PRESSURE (BAR)	13.8	11.4	8.6

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: Class 125
TEMPERATURE OPERATING RANGE: -10 to 230°C
US END CONNECTION: ANSI Class 125
OPERATOR: Swing Check Valve

SPECIFICATION: Swing check valve with cast Iron body and bonnet to BS EN 1561 GJL-250, cast iron disk to BS EN 1561 GJL-250 with bronze disk facing and bronze seat to BS EN 1982 CC491K. Valve is full bore and manufactured in accordance with BS EN 16767 and rated PN16 with -10 to 65°C temperature range. Gasket material shall be graphite-based. Valve is supplied with drilled flanges in accordance with BS EN 1092-2 PN16. Valve has C3 corrosion level epoxy coating and shall be categorized in accordance with the Pressure Equipment Directive 2014/68/EU and EU and the Pressure Equipment (Safety) Regulations 2016.

FIG NO.	MATERIAL	PED CATEGORY BY VALVE SIZE (DN)			PRODUCT APPLICATIONS			
		SEP	1	2	Group 1 Gas	Group 2 Gas	Group 1 Liquid	Group 2 Liquid
F493	Cast Iron	50-65	80-125	150-300	-	✓	✓	✓

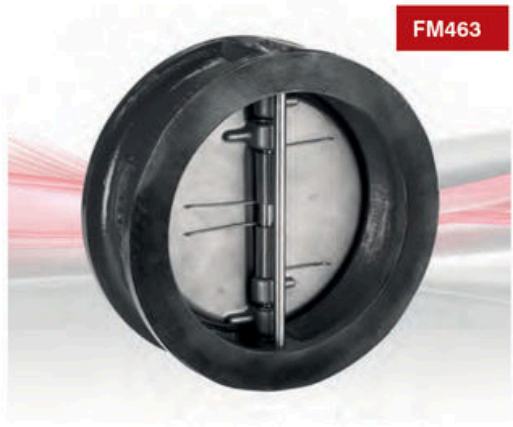
*see Quality Assurance page for more information

Vaild as of 180423

FM463 / FM466 / FA463

Double Door Check Valves

PN16 / PN25 / ANSI125



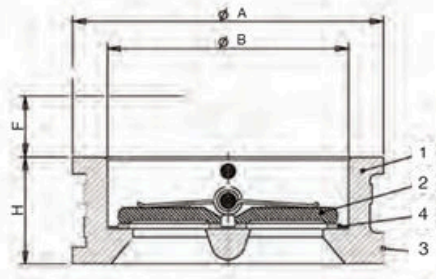
Features & Benefits

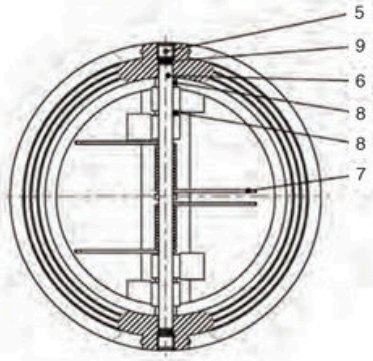
- Check valves permit flow in one direction only and close automatically if flow reverses, depending upon pressure and velocity of flow to perform the functions of the opening and closing.
- Non-Slam design as a result of rubber seat and spring-assisted closure.
- EPDM rubber seat to facilitate quiet operation and improve disk seating.
- Eyebolt tapped holes in sizes DN200 and above, to fit bolts to BS EN ISO 3226:2010 (eyebolts are not supplied with product).
- Design and construction lends itself to pump duty applications.

Materials

NO.	PART	MATERIAL			
1	Body	Cast Iron	EN-GJL-250	PN16/ANSI125	DN50-DN150
		Ductile Iron	EN-GJS-400-15	PN16/ANSI125	DN200-DN600
		Ductile Iron	EN-GJS-400-15	PN25	DN50-DN600
2	Disc	Stainless Steel SS304			
3	ID Plate	Anodised Aluminium			
4	Seat	EPDM Max 120°C			
5	Stop Bolt	Stainless Steel 304			
6	Stem	Stainless Steel 304			
7	Spring	Stainless Steel 304			
8	Washer	PTFE			
9	Gasket	EPDM Max 120°C			

Dimensional Drawing





Dimensions & Weights

SIZE	A (mm) PN16 PN25	A (mm) ANSI 125	B (mm)	F (mm)	H (mm)	WEIGHT (Kg)	EYEBOLT TAPPING (To BS EN 3226:2010)	Kv VALUES
DN50	107	102	66.0	10.0	43.0	1.5	N/A	44
DN65	127	121	80.5	16.0	46.0	2.2	N/A	102
DN80	142	133	95.0	15.0	64.0	3.2	N/A	128
DN100	162	171	119.0	28.0	64.0	4.1	N/A	203
DN125	192	193	146.0	38.0	70.0	5.7	N/A	528
DN150	218	219	171.0	47.0	76.0	8.2	N/A	688
DN200	273	276	224.5	70.0	89.0	14.6	M8	1315
DN250	328	336	266.0	78.0	114.0	24.2	M10	2315
DN300	382	406	311.0	104.0	114.0	35.8	M10	3623
DN350	442	448	360.0	127.0	127.0	54.0	M12	4620
DN400	495	511	410.0	143.0	140.0	76.0	M12	5166
DN450	555	546	450.0	158.0	152.0	103.0	M16	6164
DN500	617	603	505.0	183.0	152.0	126.0	M16	9670
DN600	734	714	624.0	221.0	178.0	187.0	M16	15340

Selection

FIG NO.	FM463	FM466	FA463
PRESSURE RATING	PN16	PN25	ANSI125

PRESSURE RATING: FM463: PN16, FA463: ANSI 125, FM466: PN25

TEMPERATURE OPERATING RANGE: -10 to 120°C

UK END CONNECTION: Suitable for flange connection to BS EN 1092-2 PN16 / BS EN 1092-2 PN25

US END CONNECTION: BS 1560, ANSI B16.1, ANSI B16.5

SPECIFICATION: Designed in accordance with BS EN 16767. Face-to-face dimensions conform to BS EN 558 series 16. Suitable for installation in vertical and horizontal pipelines.

When installed in vertical pipelines the flow must be in an upward direction.

This valve is suitable for use on Group 2 liquids only, as defined by the Pressure Equipment Directive 2014/68/EU.*

* See page 159 for more information

Vaild as of 081220

UNITED POWER
COMMERCIAL CORPORATION
ESTD. 1961

BUTTERFLY VALVES

CRANE
FLUID SYSTEMS

F611 / F626

Semi-Lugged Lever Operated Butterfly Valves

PN16

F611

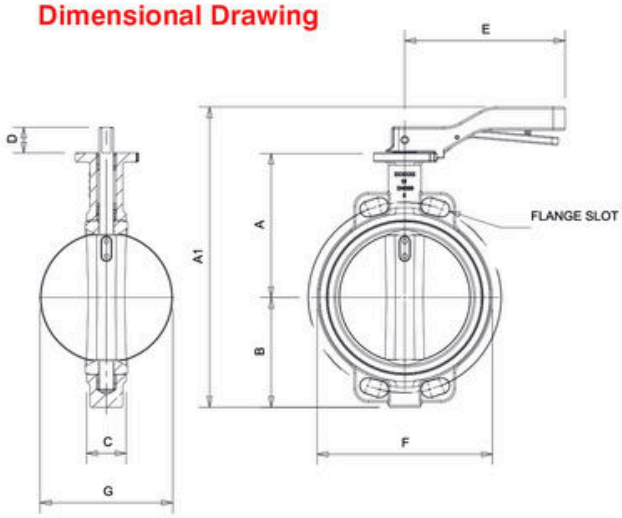
Features & Benefits

- Robust, ductile iron valve body for long life service
- Valve body semi-lugged to fit PN16 or ANSI Class 125 flanges
- The anti-blow out stem design provides a safe and secure operation
- Integrated notch plate for a more compact design and aluminium lever to reduce risk of corrosion
- Fully bonded epoxy paint system for superior corrosion resistance
- Suitable for applications where Level 3 C3 (Medium) corrosion protection is required
- Maintenance free valve design, reducing downtime
- Suitable for a wide temperature range -10°C to 130°C
- Suitable for use with flanges conforming to BS EN 1092-2 PN10 or PN16 and ANSI B16.1 Class 125.

Materials

PART	MATERIAL
Body	Ductile Iron ASTM A536 64-45-12 (Epoxy Paint)
Disc	Aluminium Bronze C954 ASTM B148
Liner (F611)	Nitrile Temp. -10 to 90°C
Liner (F626)	EPDM (High Temperature) Temp. -10 to 130°C
Shaft	Stainless Steel Type 410
Taper Pin	Stainless Steel Type 410
O-Ring	Buna-N
Bushing	PTFE
Lever	Aluminium Alloy (Epoxy Paint)

Dimensional Drawing



Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	A (mm)	A1 (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Kv	FLANGE SLOTS TO SUIT
50	2.4	109	246	72	43	32	212.5	100	52.9	98	DN50 PN16 / 2" CL125
65	3.3	131.5	278.5	82	46	32	212.5	120	64.6	167	DN65 PN16 / 2.1/2" CL125
80	3.6	134	294	95	46	32	212.5	127	79	258	DN80 PN16 / 3" CL125
100	4.5	163	343	115	52	32	212.5	156	104.4	512	DN100 PN16 / 4" CL125
125	6.3	169	359	125	56	32	212.5	190	123.5	872	DN125 PN16 / 5" CL125
150	8.4	179	392	142	56	40	245	212	155.8	1,347	DN150 PN16 / 6" CL125
200	13.4	224	465	170	60	40	378	268	202.7	2,675	DN200 PN16 / 8" CL125

*Kv coefficient denotes valves in fully open position

Pressure/Temperature Ratings

	F611	F626
MAX TEMPERATURE (°C)	-10 to 90	-10 to 130
PRESSURE (BAR)	16	15.7

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN16 / CLASS 125

TEST PRESSURES:
Shell: 24 Bar Seat: 17.6 Bar

SPECIFICATION: Lever operated epoxy coated Ductile Iron Body. Semi-lugged. Aluminium Bronze disc. EPDM or Nitrile liner. To suit flange connections BS EN 1092-2 PN10 or PN16 and ANSI B16.1 Class 125. Valves may be used for flow regulation. Valve design conforms to BS EN 593. Face to face conforms to BS EN 558.

MEDIUM:
F611 - Suitable for Group 1 and 2 gases and Group 1 and 2 liquids as defined by the Pressure Equipment Directive 2014/68/EU.*

F626 - Suitable for Group 2 liquids as defined by the Pressure Equipment Directive 2014/68/EU.*

Vaild as of 081220

F612 / F627 / F626B

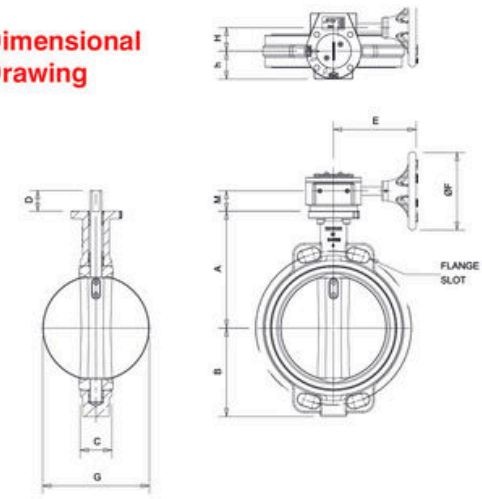
Semi-Lugged Gearbox Operated Butterfly Valves

PN16

Features & Benefits

- Robust, ductile iron valve body for long life service
- The anti-blow out stem design provides a safe and secure operation
- Valve body semi-lugged to fit PN16 or ANSI Class 125 flanges
- Fully bonded epoxy paint system for superior corrosion resistance
- Suitable for applications where Level 3 C3 (Medium) corrosion protection is required
- Maintenance free valve design, reducing downtime
- Sizes 50-300mm are suitable for use with flanges conforming to BS EN 1092-2 PN10 or PN16 and ANSI B16.1 Class 125.
- Sizes 350-600mm are for PN16 flanges only

Dimensional Drawing



Materials

PART	MATERIAL
Body	Ductile Iron ASTM A536 64-45-12 (Epoxy Paint)
Disc	Aluminium Bronze C954 ASTM B148
Liner (F612)	Nitrile Temp. -10 to 90°C
Liner (F627/F626B)	EPDM (High Temperature) Temp. -10 to 130°C
Shaft	Stainless Steel Type 410
Taper Pin	Stainless Steel Type 410
O-Ring	Buna-N
Bushing	PTFE
Gearbox	Cast Iron

Pressure/Temperature Ratings

	F612	F627/F626B
MAX TEMPERATURE (°C)	-10 to 90	-10 to 130
PRESSURE (BAR)	16	15.7

Intermediate pressure ratings shall be determined by interpolation.

Dimensions & Weights

SIZE (mm)	BARESHAFT VALVE WEIGHT (kg)	GEARBOX OPERATED WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	h (mm)	M (mm)	Kv	FLANGE SLOTS TO SUIT
50	2.1	7.1	109	72	43	32	157	150	52.9	45	54	39	98	DN50 PN16 / 2" CL125
65	3.0	7.9	131.5	82	46	32	157	150	64.6	45	54	39	167	DN65 PN16 / 2.1/2" CL125
80	3.2	8.2	134	95	46	32	157	150	79	45	54	39	258	DN80 PN16 / 3" CL125
100	4.2	9.1	163	115	52	32	157	150	104.4	45	54	39	512	DN100 PN16 / 4" CL125
125	6.0	10.9	169	125	56	32	157	150	123.5	45	54	39	872	DN125 PN16 / 5" CL125
150	7.8	12.7	179	142	56	40	157	150	155.8	45	54	39	1,347	DN150 PN16 / 6" CL125
200	12.7	19.6	224	170	60	40	238	300	202.7	45	54	39	2,675	DN200 PN16 / 8" CL125
250	28.4	38.8	264	215	68	40	238	300	250.7	63	81	41.5	4,555	DN250 PN16 / 8" CL125
300	41.0	54.0	299	240	78	40	223.5	300	301.9	78	81	38.3	7,037	DN300 PN16 / 12" CL125
350	34.2	56.2	368	264	78	-	223.5	300	334	78	81	46.5	6,003	DN350 PN16 / 14"
400	62.4	88.4	400	305	86	-	277	450	390	78	81	39	8,885	DN400 PN16 / 16"
450	80.2	110.0	422	317	105	-	325	450	441	185	160	120	10,419	DN450 PN16 / 18"
500	120.5	160.5	479	352	130	-	325	450	492	185	160	120	13,613	DN500 PN16 / 20"
600	210	260.0	562	444	154	-	340	450	597	185	160	126	17,801	DN600 PN16 / 24"

*Kv coefficient denotes valves in fully open position

PRESSURE RATING: PN16 / ANSI CLASS 125

TEST PRESSURES:
Shell: 24 Bar Seat: 17.6 Bar

SPECIFICATION: Gearbox operated epoxy coated Ductile Iron Body. Semi-lugged. Aluminium Bronze disc. EPDM or Nitrile liner. To suit flange connections BS EN 1092-2 PN10 or PN16 and ANSI B16.1 Class 125. Valves may be used for flow regulation. Valve design conforms to BS EN 593. Face to face conforms to BS EN 558. Bareshaft option available, F626B 50-600mm.

MEDIUM:
F612 - Suitable for Group 1 and 2 gases and Group 1 and 2 liquids as defined by the Pressure Equipment Directive 2014/68/EU.*

F627/F626B - Suitable for Group 2 liquids as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

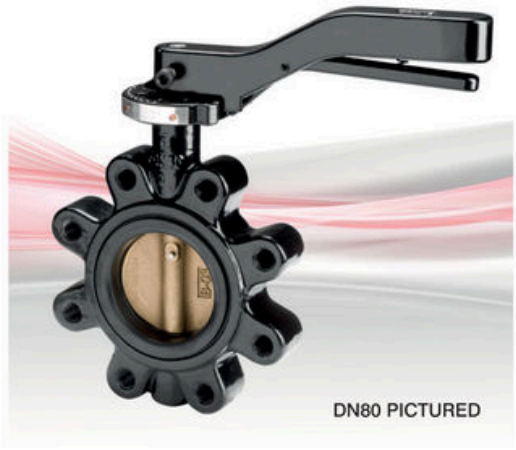
Vaild as of 300124

F614 / F628

Fully-Lugged Lever Operated Butterfly Valves

PN16

F614



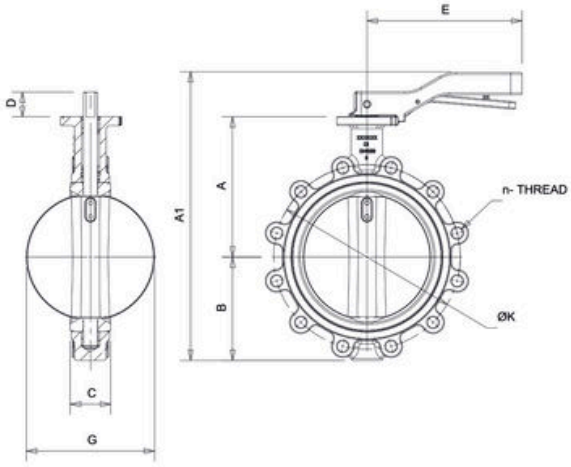
Features & Benefits

- Robust, ductile iron valve body for long life service
- Valve body fully lugged to fit PN16 or ANSI Class 125 flanges
- The anti-blow out stem design provides a safe and secure operation
- Integrated notch plate for a more compact design and aluminium lever to reduce risk of corrosion
- Fully bonded epoxy paint system for superior corrosion resistance
- Suitable for applications where Level 3 C3 (Medium) corrosion protection is required
- Maintenance free valve design, reducing downtime
- Suitable for a wide temperature range -10°C to 130°C

Materials

PART	MATERIAL
Body	Ductile Iron ASTM A536 65-45-12 / EN-GJS-450-10 (Epoxy Paint)
Disc	Aluminium Bronze C954 ASTM B148
Liner (F614)	Nitrile Temp. -10 to 90°C
Liner (F628)	EPDM (High Temperature) Temp. -10 to 130°C
Shaft	Stainless Steel Type 410
Taper Pin	Stainless Steel Type 410
O-Ring	Buna-N
Bushing	PTFE
Lever	Aluminium Alloy (Epoxy Paint)
Stop Plate	Carbon Steel (Zn Plated)

Dimensional Drawing



Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	A (mm)	A1 (mm)	B (mm)	C (mm)	D (mm)	E (mm)	G (mm)	K (mm)	Kv	N- THREAD
50	3.6	109	246	72	43	32	212.5	52.9	125	98	4- M16x2.0
65	4.1	131.5	278.5	82	46	32	212.5	64.6	145	167	4- M16x2.0
80	5.0	134	294	90	46	32	212.5	79	160	258	8- M16x2.0
100	6.5	163	343	108	52	32	212.5	104.4	180	512	8- M16x2.0
125	9.3	169	359	125	56	32	212.5	123.5	210	872	8- M16x2.0
150	11.5	179	392	142	56	40	245	155.8	240	1,347	8-M20x2.5
200	16.8	224	465	165	60	40	378	202.7	295	2,675	12- M20x2.5

*Kv coefficient denotes valves in fully open position

Pressure/Temperature Ratings

	F614	F628
MAX TEMPERATURE (°C)	-10 to 90	-10 to 130
PRESSURE (BAR)	16	15.7

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN16

TEST PRESSURES:

Shell: 24 Bar Seat: 17.6 Bar

SPECIFICATION: Butterfly Valve, as per BS EN 593 / ASTM 609 A, Fully Lugged as per BS EN 558, Concentric design, EPDM liner, Fusion Bonded Epoxy paint, Lever operated with integral notch plate and lockable positions. Ductile Iron Body, Al-Brz disc, SS shaft, PN16 rated, suitable to mount between EN 1092-2 PN16 flanges.

MEDIUM:

F614 - Suitable for Group 1 and 2 gases and Group 1 and 2 liquids as defined by the Pressure Equipment Directive 2014/68/EU.*

F628 - Suitable for Group 2 liquids as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

Vaild as of 210224

F646G / F641G / F656G / F651G / F676G / F671G

Semi-Lugged Wafer Pattern Gearbox Operated Butterfly Valves

PN16 / ANSI 125

Features & Benefits

- Universal Pattern - Valves are suitable for use with flanges conforming to BS EN 1092-2 PN16 or ANSI B16.1 Class 125
- Valve to BS EN593
- Ductile Iron, Stainless Steel, Aluminium Bronze Disc Options
- EPDM and Nitrile Seat Liner Options
- 420 Stainless Steel Shafts for superior strength

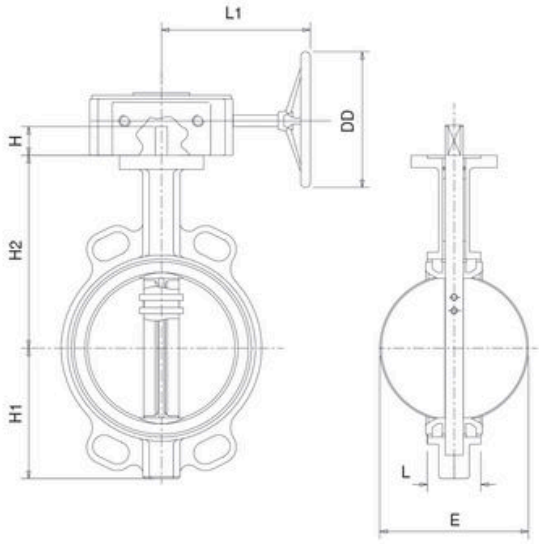
Valve Selection

	EPDM LINER	NITRILE LINER
DUCTILE IRON DISC	F646G	F641G
STAINLESS STEEL DISC	F656G	F651G
ALUMINIUM BRONZE DISC	F676G	F671G

Materials

PART	MATERIAL
Body	Ductile Iron (EN-GJS-400-15)
Disc (F646G & F641G) (DN150-600)	Ductile Iron (EN-GJS-400-15) Epoxy Coated
Disc (F656G & F651G) (DN150-600)	Stainless Steel 304 (ASTM A351 CF8)
Disc (F676G & F671G) (DN50-600)	Aluminium Bronze (ASTM B148 C95400)
Liner (F646G, F656G & F676G)	EPDM
Liner (F641G, F651G & F671G)	Nitrile Rubber
Shaft	Stainless Steel 420 (ASTM A276 420)
Taper Pin	Stainless Steel 431 (ASTM A276 431)
O-Ring	Nitrile Rubber
Bushing	PTFE

Dimensional Drawing



Dimensions & Weights

SIZE (mm)	WEIGHT (kg) BARESHAFT	WEIGHT (kg) GEARBOX	H2	H1	L	H	L1	ØE	DD	Kv
50	2.1	7.0	141	61	43	32	157	52.9	145	133
65	2.5	7.4	153	72	46	32	157	64.7	145	227
80	2.9	7.8	161	87	46	32	157	79.1	145	349
100	4.2	9.1	179	106	52	32	157	104.4	145	694
125	5.6	10.5	193	123	56	32	157	123.3	145	1181
150	6.6	11.5	204	137	56	32	157	155.6	145	1825
200	11.3	20.1	247	174	60	45	236	202.5	300	2503
250	17.3	26.0	280	209	68	45	236	250.5	300	3876
300	24.7	36.0	324	253	78	45	237	301.6	300	6736
350	37.0	48.0	310	255	78	48	237	333.6	300	8135
400	57.0	82.0	340	317.5	102	64	246	389.5	300	12041
450	75.0	100.0	375	330	114	64	246	440.5	380	14121
500	104.0	134.0	425	367	127	64	254	489.7	285	18449
600	157.0	207.0	505	443	154	82	301	592.7	400	24125

Pressure/Temperature Ratings

	F646G/F656G/F676G	F641G/F651G/F671G
TEMPERATURE (°C)	-10 to 120	-10 to 82
PRESSURE (BAR)	16	16

PRESSURE RATING: PN16 & ANSI Class 125
END CONNECTION: Semi-Lugged
OPERATOR: Gearbox
OTHER: Bare shaft options available
(Fig No. F646B / F641B / F656B / F651B / F676B / F671B)
Please contact us for bare shaft top works details

SPECIFICATION: End connections compatible with BS EN1092-2 PN16 & ANSI B16.1 Class 125 flanges.
TEST PRESSURES: (Hydrostatic)
SHELL: 24 bar
SEAT: 17.6 bar

Valid as of 081220

F646L / F641L / F656L / F651L / F676L / F671L

Semi-Lugged Wafer Pattern Lever Operated Butterfly Valves

PN16 / ANSI 125

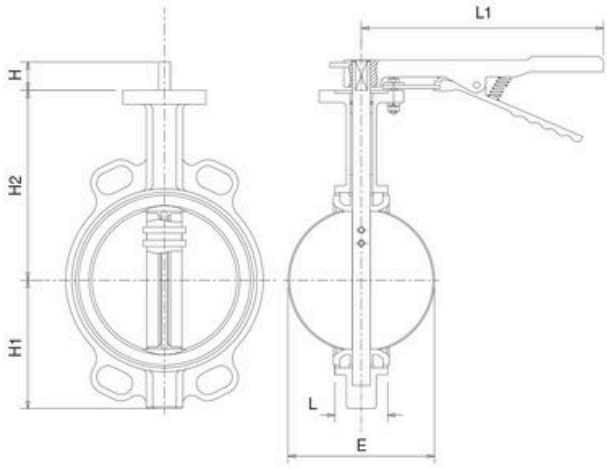
Features & Benefits

- Universal Pattern - Valves are suitable for use with flanges conforming to BS EN 1092-2 PN16 or ANSI B16.1 Class 125
- Valve to BS EN593
- Ductile Iron, Stainless Steel, Aluminium Bronze Disc Options
- EPDM and Nitrile Seat Liner Options
- 420 Stainless Steel Shafts for superior strength

Valve Selection

	EPDM LINER	NITRILE LINER
DUCTILE IRON DISC	F646L	F641L
STAINLESS STEEL DISC	F656L	F651L
ALUMINIUM BRONZE DISC	F676L	F671L

Dimensional Drawing



Materials

PART	MATERIAL
Body	Ductile Iron (EN-GJS-400-15)
Disc (F646L & F641L)	Ductile Iron (EN-GJS-400-15) Epoxy coated
Disc (F656L & F651L)	Stainless Steel 304 (ASTM A351 CF8)
Disc (F676G & F671G)	Aluminium Bronze (ASTM B148 C95400
Liner (F646L, F656L & F676L)	EPDM
Liner (F641L, F651L & F671L)	Nitrile Rubber
Shaft	Stainless Steel 420 (ASTM A276 420)
Taper Pin	Stainless Steel 431 (ASTM A276 431)
O-Ring	Nitrile Rubber
Bushing	PTFE
Lever & Screw	Malleable Iron ASTM Gr.32510
Stop Plate	Mild Steel (GB700 Q235) Chromium Plated

Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	H2	H1	L	H	L1	ØE	Kv
50	2.6	141	61	43	32	216	52.9	133
65	3.0	153	72	46	32	216	64.7	227
80	3.4	161	87	46	32	216	79.1	349
100	4.9	179	106	52	32	265	104.4	694
125	6.3	193	123	56	32	265	123.3	1181
150	7.3	204	137	56	32	265	155.6	1825
200	12.2	247	174	60	45	374	202.5	2503

Pressure/Temperature Ratings

	F646L/F656L/F676L	F641L/F651L/F671L
TEMPERATURE (°C)	-10 to 120	-10 to 82
PRESSURE (BAR)	16	16

PRESSURE RATING: PN16 & ANSI Class 125
END CONNECTION: Semi-Lugged
OPERATOR: Trigger Lever
OTHER: Bare shaft options available
(Fig No. F646B / F641B / F656B / F651B / F676B / F671B)
Please contact us for bare shaft top works details

SPECIFICATION: End connections compatible with BS EN1092-2 PN16 & ANSI B16.1 Class 125 flanges.
TEST PRESSURES: (Hydrostatic)
SHELL: 24 bar
SEAT: 17.6 bar

Valid as of 081220

FA648L / FA644L / FA658L / FA654L / FA678L / FA674L

Fully Lugged Lever Operated Butterfly Valves

ANSI 125

Features & Benefits

- Valves are suitable for use with flanges conforming to ANSI B16.1 Class 125
- Valve generally conforms to MSS SP 67
- Ductile Iron, Stainless Steel, Aluminium Bronze Disc Options
- EPDM and Nitrile Seat Liner Options
- 420 Stainless Steel Shafts for superior strength

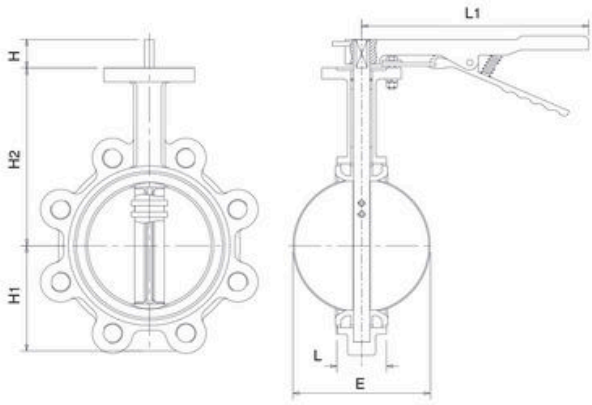
Valve Selection

	EPDM LINER	NITRILE LINER
DUCTILE IRON DISC	FA648L	FA644L
STAINLESS STEEL DISC	FA658L	FA654L
ALUMINIUM BRONZE DISC	FA678L	FA674L

Materials

PART	MATERIAL
Body	Ductile Iron (EN-GJS-400-15)
Disc (FA648L & FA644L) (2"-8")	Ductile Iron (EN-GJS-400-15) Epoxy Coated
Disc (FA658L & FA654L) (2"-8")	Stainless Steel 304 (ASTM A351 CF8)
Disc (FA678L & FA674L) (2"-8")	Aluminium Bronze (ASTM B148 C95400
Liner (FA648L, FA658L & FA678L)	EPDM
Liner (FA644L, FA654L & FA674L)	Nitrile rubber
Shaft	Stainless Steel 420 (ASTM A276 420)
Taper Pin	Stainless Steel 431 (ASTM A276 431)
O-Ring	Nitrile rubber
Bushing	PTFE
Lever & Screw	Malleable Iron ASTM Gr.32510
Stop Plate	Mild Steel (GB700 Q235) Chromium Plated

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	H2	H1	L	H	L1	ØE	Kv
2	3.5	141	61	43	32	216	52.9	133
21/2	3.9	153	72	46	32	216	64.7	227
3	5.2	161	87	46	32	216	79.1	349
4	7.3	179	106	52	32	265	104.4	694
5	9.8	193	123	56	32	265	123.3	1181
6	10.7	204	137	56	32	265	155.6	1825
8	18.3	247	174	60	45	374	202.5	2503

Pressure/Temperature Ratings

	FA648L / FA658L / FA678L	FA644L / FA654L / FA674L
TEMPERATURE (°C)	-10 to 120	-10 to 82
PRESSURE (BAR)	16	16

PRESSURE RATING: ANSI 125
END CONNECTION: Fully Lugged
OPERATOR: Trigger Lever
OTHER: Bare shaft options available (Fig No. FA648B / FA658B / FA644B / FA654B / FA678B / FA674B)
Please contact us for bare shaft top works details

SPECIFICATION: End connections compatible with ANSI B16.1 Class 125 flanges.
TEST PRESSURES: (Hydrostatic)
SHELL: 24 bar
SEAT: 17.6 bar

Valid as of 081220

VALVES WE OFFER

CRANE
FLUID SYSTEMS

GATE

CHECK

BALL

Y-STRAINER

GLOBE

SPECIFICATIONS:

STANDARDS:
ASTM A105 , API, ASME, AND ANSI B16.5

- size: 1/4" - 48"
- Thickness: Class 150 -2,500
- All Items will have an accompanying Mill Test Certificate upon request

APPLICATIONS:

- Industrial
- Residential
- Petrochemical Plants
- Oil & Gas
- Refineries
- Sugar Mills
- Energy
- Construction & Infrastructure
- Chemicals
- Machineries
- Boilers
- Food & Beverage
- Shipping
- Desalination Plant
- Power Plants
- Automotive & Transport
- High-Pressure Vessel

PICV (PRESSURE INDEPENDENT CONTROL VALVE

CRANE
FLUID SYSTEMS

- SIZE: DN15-DN150
- PRESSURE (BAR) RATING: 16 - 25 BAR
- TEMPERATURE RATING: 0° - 90°
- FLOW RANGE: 0.008 - 0.850 L/S
- DIFFERENTIAL PRESSURE RANGE: 20 - 800 KPA

DRV (DOUBLE REGULATING VALVE/BALANCING VALVE)

CRANE
FLUID SYSTEMS

- SIZE: DN15-DN150
- PRESSURE (BAR) RATING: 16 - 25 BAR
- TEMPERATURE RATING: -10° - 120°

WHY SWITCH TO PICV IN YOUR HVAC SYSTEM?

- 5% - 35% more energy efficient
- Eliminates the need for separate Balancing Valves
- Lower maintenance cost
- Better temperature control
- Prevent excess or insufficient water flow

APPLICATIONS FOR PCV & DRV:

- Data Centers & Tech Facilities
- Office Buildings
- Shopping Malls
- Hotels & Resorts
- Manufacturing Plants
- Hospitals
- Clinics
- Train Stations
- Bus Terminals
- LEED-certified buildings
- Smart buildings
- Military Facilities
- Laboratories
- Universities
- Schools
- Research Facilities
- Pharmaceutical Facilities
- Courthouses
- Municipal Buildings
- Food & Beverage Processing

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CRANE

FLUID SYSTEMS

UPCC 2025