



AUDCO SLIMSEAL BUTTERFLY VALVES



Experience In Motion

FLOWSERVE INDIA CONTROLS PVT LTD

AUDCO Butterfly Valves is a Wafer type Valve with an integrally moulded elastomer body liner. Designed to outperform loose liners, AUDCO Butterfly Valves elastomer liner is moulded directly in the body bore and vulcanised in-situ, making it last the entire life of the valve. The result - a valve that requires no form of maintenance. A perfect FIT AND FORGET valve.

AUDCO Butterfly Valves is available in different combinations of body, liner and disc materials to suit a wide range of line fluids, a size range of 50 to 600 mm, and a pressure rating up to PN 20. This permits its use in a wide range of applications making AUDCO Butterfly Valves a truly versatile valve.

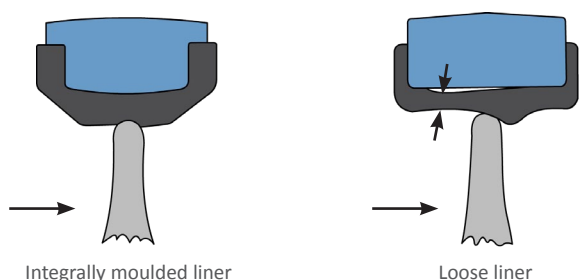
ADVANTAGES OF INTEGRALLY MOULDED LINER

LONGER VALVE LIFE

Integral moulding permits maximising the use of plasticiser in elastomer formulation. This ensures a smooth surface, thereby reducing friction between the disc and liner. In-situ vulcanisation imparts greater strength to the liner. Reduced friction and high strength of the seat extend valve life.

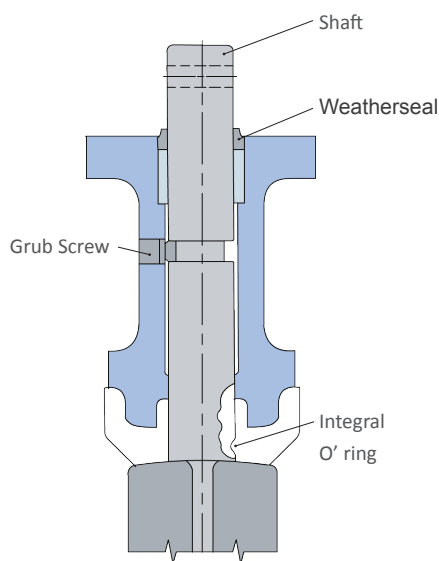
SUPERIOR SEATING

AUDCO Butterfly Valves integrally moulded body liner is not subjected to stretching, which is the cause for fatigue in loose-lined elastomers. Fatigue in elastomer results in excessive wear and subsequent tearing of the liner. A torn liner can be easily swept into the line causing extensive damage to expensive down-stream equipment. Though in valves with loose liners the seat can be replaced, by the time it is done the line fluid would have caused some corrosion to the valve body. This causes imperfect seating of the new liner, resulting in leakages. These drawbacks are eliminated in AUDCO Butterfly Valves integrally moulded liner design.



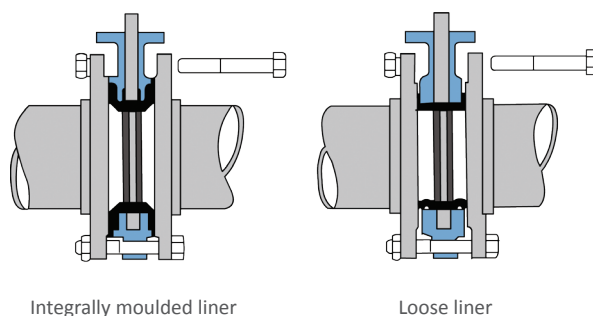
STEM SEALING

In AUDCO Butterfly Valves the body liner incorporates flats at the top and the bottom where the shaft passes through, providing a wide sealing area. The secondary sealing is by two 'O' rings that are moulded at the top and bottom of the seat, which get compressed around the shaft. A weatherseal at the top of the shaft prevents any ingress of foreign material into the valve.



EASY INSTALLATION

AUDCO Butterfly Valves has a gasket integral to the body which eliminates the need for a separate gasket between the valve face and companion flange. In addition, as the liner is bonded to the body, it will not hang out or get pinched during installation. Damage to expensive replaceable seats is thereby eliminated.



FULLY ISOLATED VALVE INTERNALS

In the AUDCO Butterfly Valves, the rubber liner incorporates flats at the top and the bottom where the shaft passes through, providing a wide sealing area. This ensures the line fluid does not enter the stem area and get contaminated. The secondary sealing is by two 'O' rings that are moulded at the top and bottom of the seat, which get compressed around the shaft.

FOR CORROSIVE APPLICATIONS

AUDCO CHEMSEAL is a wafer type butterfly valve specifically designed for corrosive services. The body liner is formulated from Hypalon which is a synthetic elastomer having a chemical inertness very close to that of PTFE, but at the same time having the resilience of rubber. This design eliminates contact of the valve body and shaft from the line media. These valves find application on lines carrying aqueous acids, alkali solutions and majority of inorganic salts. The valve has a coating of epoxy paint capable of withstanding corrosive atmospheres.



HYGIENIC APPLICATIONS

AUDCO CLEANSEAL is a wafer type butterfly valve specifically designed for hygienic services. The body seat is formulated from food grade EPDM or white Acrylo nitrile rubber, both synthetic elastomers which do not impart any toxic substance, colour, odour or flavour to the line media. This design eliminates contact of the valve body and shaft from the line media. These valves find application on Hygienic lines in food, dairy, beverages, pharmaceutical and other related industries. The valve has a white epoxy paint for providing corrosion resistance. These valves are available in a size range of 50 to 300 mm and maximum pressure rating of 16 bar for EPDM and 14 bar for White Nitrile.

SELF DRAINING AND CAVITY FREE

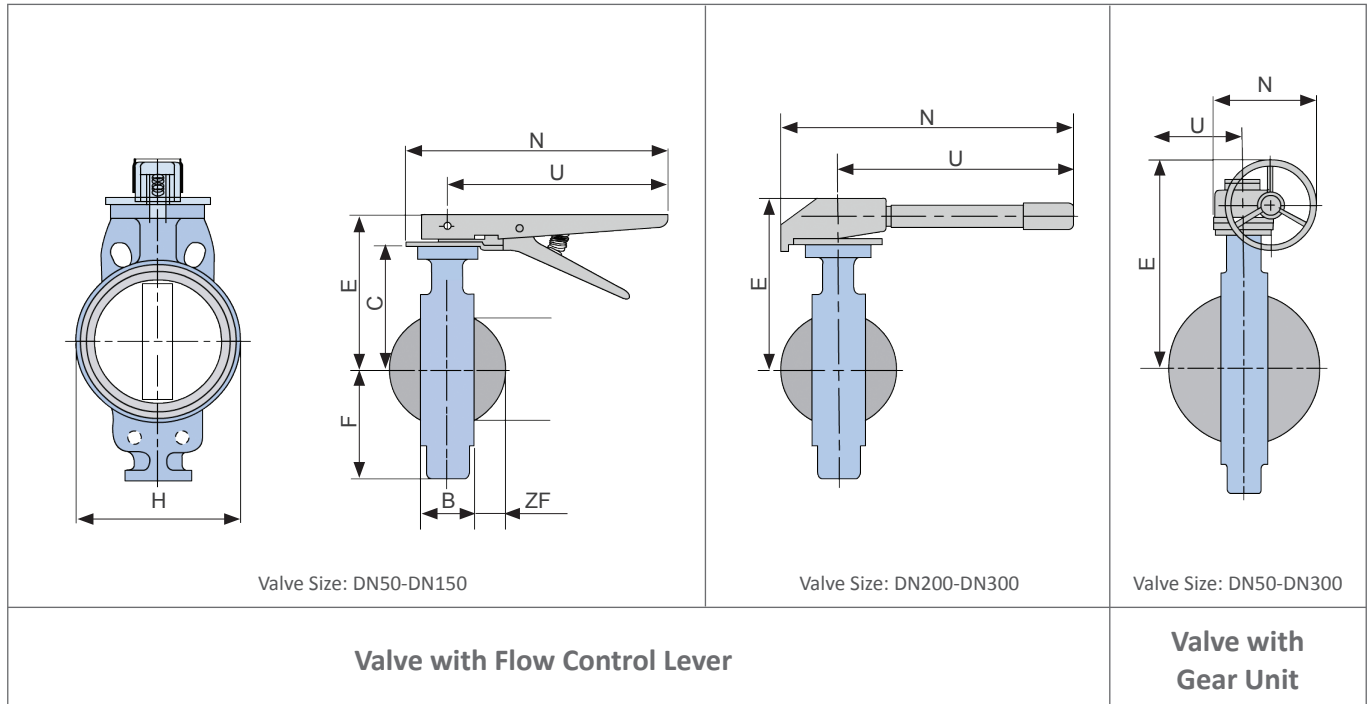
The CLEANSEAL valve design incorporates a crevice free construction, which is a pre-requisite for valves to be used on hygienic services. A smoothly streamlined elastomer lining with a fully polished stainless steel disc ensures that there are no dead pockets or crevices in the valve. The body seat and disc of the CLEANSEAL are contoured in such a way that it is impossible for any line media to remain stagnant inside the valve. The wiping action of the disc ensures that the seat is always maintained clean.



AUDCO SLIMSEAL PN10

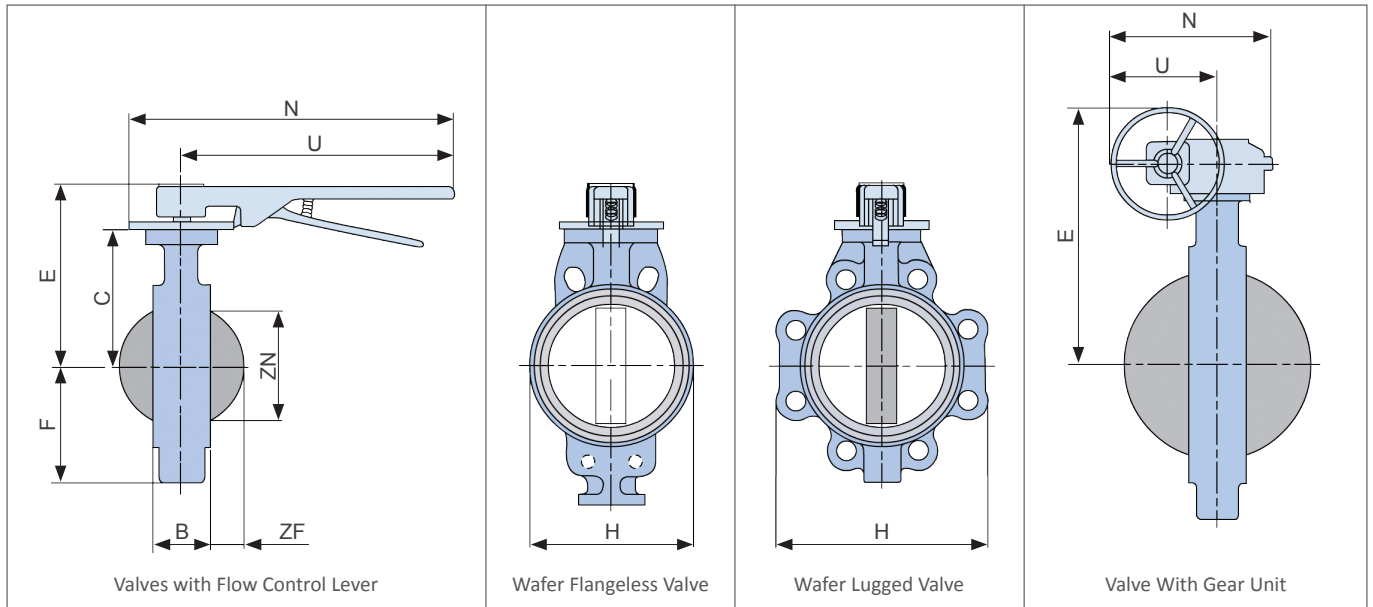
AUDCO butterfly valves PN10 wafer type valve, with an integrally moulded elastomer body liner, is designed to outperform valves with loose liners. The elastomer liner, moulded directly in the body and vulcanized in-situ, ensures that the liner lasts the entire life of the valve. A valve that requires no form of maintenance.

AUDCO SLIMSEAL PN10 offers a cost effective solution to HVAC systems and is available in sizes from 50 mm to 300 mm, for use in water and air services.



DIMENSIONS (mm)

Valve size	AUDCO SLIMSEAL PN10											
	B	C	E		F	H	N		U		ZN	ZF
			Flow Control Lever	Gear Unit			Flow Control Lever	Gear Unit	Flow Control Lever	Gear Unit		
50	43	99	129	228	65	96	300	193	268	132	27	4
65	46	110	140	239	78	105	300	193	268	132	47	10
80	46	116	146	245	85	123	300	193	268	132	63	16
100	52	134	164	263	105	157	300	193	268	132	83	23
125	56	164	194	293	118	180	300	193	268	132	107	32
150	56	177	207	306	144	212	300	193	268	132	136	45
200	60	235	300	365	169	262	472	193	405	132	185	67
250	68	259	332	438	214	322	615	250	513	181	234	88
300	78	284	357	463	249	373	618	250	516	181	280	106



DIMENSIONS (mm)

Valve size		AUDCO SLIMSEAL PN16/PN20														
		AUDCO CHEMSEAL & CLEANSEAL										350	400	450	500	600
		50	65	80	100	125	150	200	250	300						
B		43	46	46	52	56	56	60	68	78	92	102	114	127	154	
C		99	110	116	134	164	177	235	259	284	318	370	410	448	509	
E	Flow Control Lever	125	140	146	174	204	217	302	326	351	-	-	-	-	-	
	Standard Gear Unit	228	239	245	263	293	306	429	453	478	512	-	-	-	-	
	Heavy Duty Gear Unit	-	-	-	-	-	-	451	476	501	535	587	790	828	889	
F		65	78	85	105	118	144	169	214	249	342	377	447	485	556	
H	Wafer Flangeless	103	110	130	161	193	220	273	328	378	438	489	532	589	695	
	Wafer Lugged	121	135	180	208	238	261	322	394	462	525	595	647	721	845	
N	Flow Control Lever	320	320	320	320	320	320	619	619	619	-	-	-	-	-	
	Standard Gear Unit	193	193	193	193	193	193	300	300	300	300	-	-	-	-	
	Heavy Duty Gear Unit	-	-	-	-	-	-	375	375	375	375	375	552	552	552	
U	Flow Control Level	268	268	268	268	268	268	508	508	508	-	-	-	-	-	
	Standard Gear Unit	132	132	132	132	132	132	217	217	217	217	-	-	-	-	
	Heavy Duty Gear Unit	-	-	-	-	-	-	255	255	255	255	255	437	437	437	
ZN		27	47	63	83	107	136	185	234	280	325	376	424	476	573	
ZF		4	10	16	23	32	45	67	88	106	123	144	163	183	220	
H.W.Dia-Standard Gear Unit		152	152	152	152	152	152	300	300	300	300	-	-	-	-	
H.W.Dia-Heavy Duty Gear Unit		-	-	-	-	-	-	300	300	300	300	300	578	578	578	

APPROXIMATE WEIGHT (kgs)

Valve size		AUDCO SLIMSEAL PN16/PN20														
		AUDCO CHEMSEAL & CLEANSEAL										350	400	450	500	600
		50	65	80	100	125	150	200	250	300						
Flow Control Lever - Flangeless		3.6	3.9	4.6	6.8	9.5	11.6	26.5	34.5	46.0	-	-	-	-	-	
Flow Control Lever - Lugged		4.9	5.6	7.6	10.4	13.5	15.6	34.0	47.5	61.2	-	-	-	-	-	
Standard Gear Unit- Flangeless		11.3	11.6	12.3	14.5	17.2	19.3	28.0	36.0	47.5	72.0	-	-	-	-	
Standard Gear Unit- Lugged		12.6	13.3	15.3	18.1	21.2	23.3	35.5	49.0	62.7	95.0	-	-	-	-	
Heavy Duty Gear Unit- Flangeless		-	-	-	-	-	-	46.0	54.0	65.5	90.0	115.5	146.0	181.5	261.0	
Heavy Duty Gear Unit - Lugged		-	-	-	-	-	-	53.5	67.0	80.7	113.0	157.0	204.0	260.0	391.0	

Note: 450 mm to 600 mm wafer flangeless bodies have lugs near the top and bottom shaft areas. Unless specified by the customer, lugs are tapped as per ASME B16.1 CLASS 125 / ASME 16.5 CLASS 150 (UNC) as shown in dotted lines. For more details contact Flowserve India Controls Pvt Ltd.

MATERIAL SPECIFICATION

Part	Material of Construction	Slimseal			Chemseal	Cleanseal
		PN10	PN16	PN20		
Body	Cast Iron to BS 1452	Gr 200	Gr 250		Gr 250	Gr 250
	SG Iron to BS 2789 Gr 420/12		*	*	*	*
	C/S to ASTM A216 Gr WCB		*	*	*	*
Body Liner	Acrylo Nitrile	*				
	Black Nitrile		*	*		
	EPDM (WRC Approved)	*	*	*		*
	Hypalon				*	
	Viton				*	
	White Nitrile					*
Disc	Cast Iron to BS 1452 GR 250 with Nylon coating	*				
	SG. Iron to BS 2789 GR 420/12 with Nylon coating		*	*		
	Al. Bronze to BS 1400 Gr AB2		*			
	S/S to ASTM A351 Gr CF8/CF8M	*	*	*	*	*
	SG. Iron to BS 2789 GR 420/12 with Hypalon/Viton encapsulation				*	
Shaft	BS 970 - 080M20 with PTFE coating	*				
	AISI 410 PTFE coated for permanent dry lubrication		*	*	*	*
Bearings	Acetal	*	50-300mm	50-300mm	*	*
	Brass		350-600mm	350-600mm		
Standard flow control lever	SG Iron/Steel	*	*	*	*	*

For other materials of body and disc, contact Flowserve India Controls Pvt Ltd.

TORQUE DATA

Valve Size (mm)	PN10	PN16	PN20	Chemseal	Cleanseal
	10 bar	16 bar	20 bar	12 bar*	14 bar
50	7	12	15	27	11
65	11	20	25	35	17
80	15	27	34	45	24
100	23	41	50	68	36
125	34	62	78	122	55
150	52	93	115	231	81
200	102	182	227	447	160
250	156	279	347	597	244
300	178	318	396	854	279
350	-	514	639	-	-
400	-	925	1150	-	-
450	-	1192	1480	-	-
500	-	1506	1869	-	-
600	-	3029	3762	-	-

* For Butterfly Valves with rubber encapsulated discs only

Torque figures indicated are the maximum torque under static condition and do not include any safety factor. During operator I actuator selection suitable factor of safety is to be considered taking into account fluid parameters. Torque figures are at the top shaft of the valve.

STANDARDS

Valve Design	EN 593	- Specification for Butterfly valves
	API609	- Lug and Wafer type Butterfly Valves
Installed	MSS SP67	- Butterfly valves
	ISO 5752	- Metal valves for use in flanged pipe systems. Face to face and centre to face dimensions
	50mm to 300mm	BS EN 593 - Wafer Short API 609 - Category A MSS SP-67 - Narrow Body ISO 5752 - Short
Face to Face dimension	350mm to 600mm	BS EN 593 - Wafer Medium API 609 - Category A (Except DN 350) MSS SP-67 - Wide Body ISO 5752 - Medium
	Pressure testing	EN 12266-1

The valves have been designed to fit without gaskets between flanges drilled to BS 10 Tables D & E, ASME B16.1/ B16.5 Class 150, DIN ND 10/16, BS 4504 PN 10/16, IS 6418 Tables 6 to 9 or IS 6392 Tables 10 to 20.

For mounting with any other flanges contact Flowserve India Controls Pvt Ltd. Lugged valves are provided with tapped holes as per ASME B16.1 Class 125 (UNC) unless otherwise specified.

Body top platform drilled to ISO 5211 to facilitate direct mounting of actuators and gear units. Contact Flowserve India Controls Pvt Ltd. for shaft top end details for bare shaft valves.

TEST PRESSURE - Bar

Valve	Working Pressure	Test Pressures	
		Body	Seat
Slimseal PN10	10	15	11
Slimseal PN16	16	24	17.6
Slimseal PN20	20	30	22
Chemseal	12	18	13.2
Cleanseal	14	21	15.4

OPERATION

Valves are offered with a choice of operators like Flow control lever, Standard Gear Unit or Heavy Duty Unit as given below:

Operator Type	PN10	PN16	PN20	Chemseal	Cleanseal
Flow Control Lever	50 to 300	50 to 300	50 to 150	50 to 300	50 to 300
Standard Gear Unit	50 to 300	50 to 350	50 to 350	50 to 300	50 to 300
Heavy Duty Gear Unit	-	200 to 600	200 to 600	-	-

Heavy duty gear units are supplied for valves to be fitted with electric actuators.

ACCESSORIES

AUDCO Butterfly valves can be supplied with factory fitted pneumatic, hydraulic or electric actuators along with other accessories such as limit switches, manual overrides, positioners etc., to form a complete flow control package.

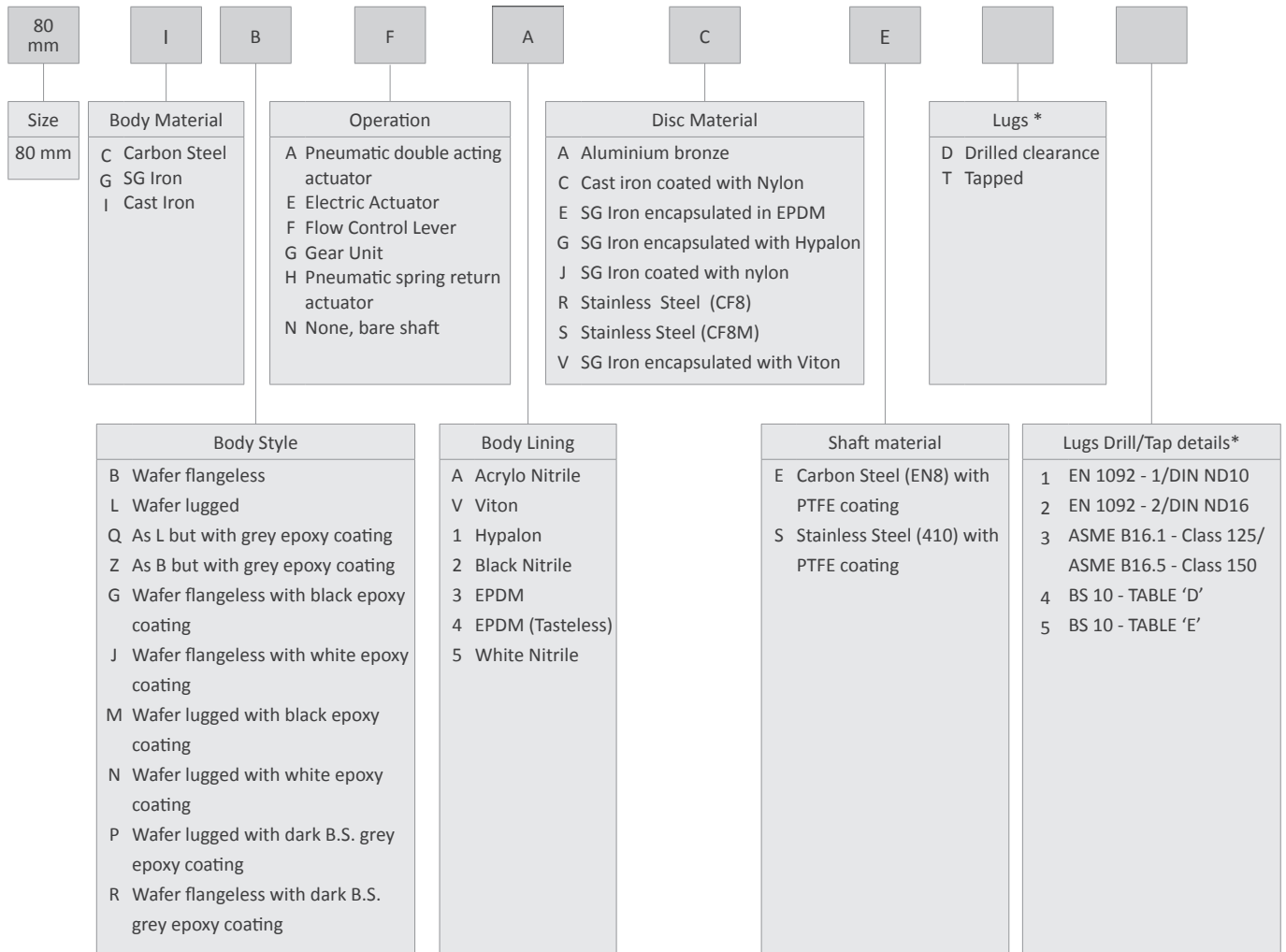
MATERIALS AND APPLICATIONS

General Applications	Continuous Working	Temperature Range	Maximum Working Pressure	Disc Material	Seat Material
Oils, Fuels, Water, Air, Gases	Hydrocarbons (Except Aromatics) Other Liquids Dry Service	- 10°C to 90°C - 10°C to 90°C - 10°C to 65°C	16/20 bar	Nylon Coated SG Iron	Black Nitrile
Brines, Sea Water, Estuary Water,	Liquids	- 10°C to 90°C	16/20 bar	Aluminium Bronze	Black Nitrile
Steam, Water, Hot Gases, Powders, Slurries and aqueous slurries of an abrasive nature	Liquids Dry Services	- 10°C to 120°C - 10°C to 100°C	16/20 bar	Stainless Steel periphery polished	EPDM
Alcohols, Dilute alkalies, Animal & vegetable oils		- 10°C to 90°C	12 Bar	Hypalon Encapsulated SG Iron or Stainless steel periphery polished	CSM (Hypalon)
Dilute Acids, Weak Alkalies, Oils, hydrocarbons & Salt solutions		-10°C Upto 150°C	12 Bar	Viton Encapsulated SG Iron or Stainless steel periphery polished	FKM (Viton)
Food, Dairy, Pharma	Liquids Dry Services	- 10°C to 80°C - 10°C to 65°C	14 bar	Stainless steel Fully polished	White nitrile
Oils, Fuels, Hot Air		-10°C Upto 140°C	6 bar	Stainless Steel periphery polished	Silicone
Sea Water, Air, HVAC systems		- 10°C to 70°C	10 bar	Nylon Coated Cast Iron	# Nitrile

SLIMSEAL PN10 nitrile

CATALOGUE CODING

A familiarity with our Catalogue number is not necessary when specifying or ordering our valves. If full description of the valve could be provided we will translate this into a catalogue number formulated as per the following system:



* For lugged valves only

As we continuously endeavour to improve our products, the data given herein are subject to change.



FLOWERVE INDIA CONTROLS PVT LTD

B-8, CMDA Industrial Area, Maraimalai Nagar - 603 209,
Kanchipuram Dist, Tamil Nadu, India.

(T) +91-44-27452323 (F) +91-44-27452327

Manufacturer of AUDCO Plug and Slimseal Valves

Email : Audcoslimsealindia@flowserve.com

www.flowserve.com