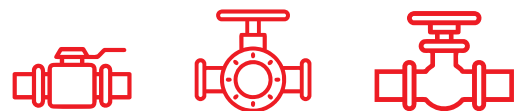


evo valves™



FORGED STEEL VALVES



# WHO WE ARE



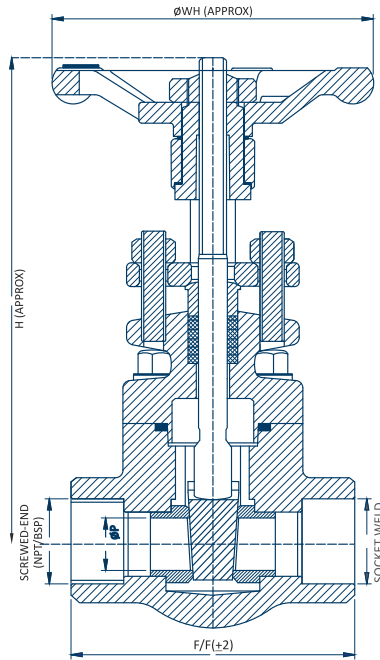
EVO VALVES is a registered trademark of parent company Evolution Engitech Pvt Ltd (formerly known as Shree Siddhivinayak Engineering). Shree Siddhivinayak Engineering was founded by two young aspirants Mr. Ramjibhai Patel and Mr. Maheshbhai Patel back in 1992. Then both of its founder's sons Mr. Parth Patel and Mr. Milan Patel took over the company operations and registered it as a private limited firm named "Evolution Engitech Pvt Ltd" in 2021.

We are manufacturing Stainless Steel, Carbon & Alloy Steel customized Forged Gate Valves, Globe Valve, Lift Check Valves and Ball Valves. We specialise in production of Forged Valves and Flanges in special Alloys in Duplex, Super Duplex, Nickel Alloys, Titanium and Aluminium Alloys. We have an annual installed capacity of 1800 Tons of Forgings & Flanges. We are exporting our products to more than 20 countries worldwide.

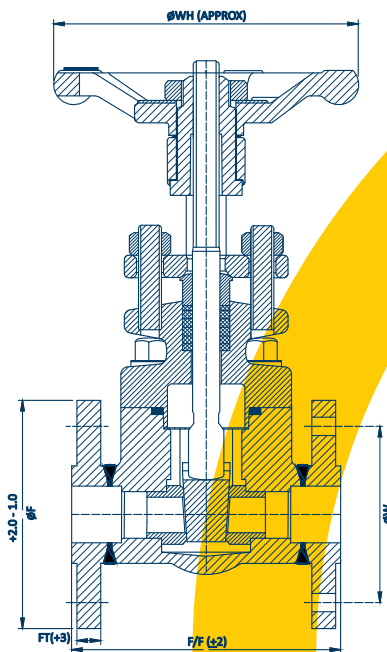


# FORGED GATE VALVE

SOCKET WELD & SCREWED END



FLANGED END



## Class 800#

VALVE SIZE INCH	MM	F/F	ØP	H OPEN	H CLOSE	ØHW	WT KG
½"	15	87	9.5	152	130	86	1.6
¾"	20	92	12.7	158	133	86	1.9
1"	25	106	17.5	189	155	116	3.1
1¼"	32	127	28.6	239	200	150	6.3
1½"	40	127	28.6	239	200	150	6.1
2"	50	142	36.5	288	235	150	9.8

## Class 1500#

VALVE SIZE INCH	MM	F/F	ØP	H OPEN	H CLOSE	ØHW	WT KG
½"	15	92	9.5	158	133	86	2.2
¾"	20	106	12.7	189	155	116	3.6
1"	25	127	15.9	239	200	150	7.3
1¼"	32	142	22.2	288	235	150	7.0
1½"	40	142	27.0	288	235	150	11.3

## Class 2500#

VALVE SIZE INCH	MM	F/F	ØP	H OPEN	H CLOSE	ØHW	WT KG
½"	15	106	7.0	189	155	116	4.1
¾"	20	127	12.5	239	200	150	8.4
1"	25	142	15.5	288	235	150	13.0

## Class 150#

VALVE SIZE INCH	MM	F/F	ØF	FT	ØW	ØHW	WT KG
½"	15	108	90	9.6	60.3	86	2.6
¾"	20	117	100	11.2	69.6	86	3.5
1"	25	127	110	12.7	79.4	116	5.1
1¼"	32	140	115	14.3	88.9	150	8.7
1½"	40	165	125	15.9	98.4	150	9.3
2"	50	178	150	17.5	120.7	150	15.0

## Class 300#

VALVE SIZE INCH	MM	F/F	ØF	FT	ØW	ØHW	WT KG
½"	15	140	95	12.7	66.7	86	3.2
¾"	20	152	115	14.3	82.6	86	4.7
1"	25	165	125	15.9	88.9	116	6.5
1¼"	32	178	135	17.5	98.4	150	105
1½"	40	190	155	19.1	114.3	150	12.1
2"	50	216	165	20.7	127	150	17.2

## Class 600#

VALVE SIZE INCH	MM	F/F	ØF	FT	ØW	ØHW	WT KG
½"	15	165	95	14.3	66.7	86	3.6
¾"	20	190	115	15.9	82.6	86	5.1
1"	25	216	125	17.5	88.9	116	7.3
1¼"	32	229	135	20.7	98.4	150	11.5
1½"	40	241	155	22.3	114.3	150	13.7
2"	50	292	165	25.4	127	150	20.0

Dimensions (in mm, unless specified)

# FORGED GLOBE VALVE

SOCKET WELD & SCREWED END

## Class 800#

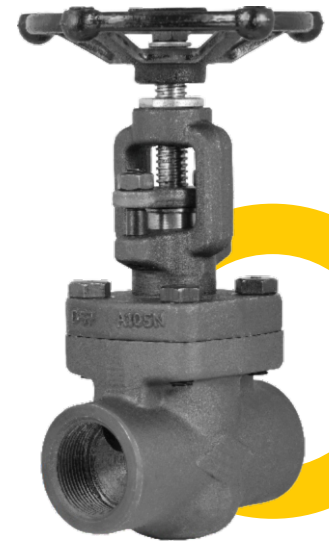
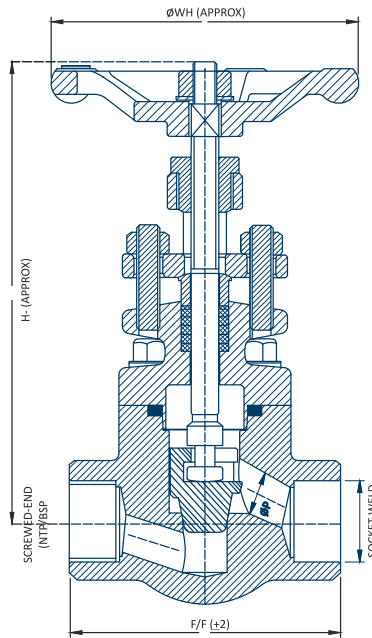
VALVE SIZE INCH MM	F/F	ØP	H OPEN	H CLOSE	ØHW	WT KG
½" 15	87	9.0	153	147	86	1.6
¾" 20	92	12.0	158	149	86	1.9
1" 25	106	17.0	194	182	116	3.0
1¼" 32	127	23.0	222	208	150	6.5
1½" 40	127	25.0	222	208	150	6.3
2" 50	142	36.5	263	245	150	10.1

## Class 1500#

VALVE SIZE INCH MM	F/F	ØP	H OPEN	H CLOSE	ØHW	WT KG
½" 15	92	8.0	158	149	86	2.2
¾" 20	106	9.0	194	182	116	3.6
1" 25	127	14.0	222	208	150	7.5
1¼" 32	142	20.0	263	245	150	7.3
1½" 40	142	25.0	263	245	150	11.6

## Class 2500#

VALVE SIZE INCH MM	F/F	ØP	H OPEN	H CLOSE	ØHW	WT KG
½" 15	106	7.0	194	182	116	4.0
¾" 20	127	8.0	222	208	150	8.6
1" 25	142	12.0	263	245	150	13.3



FLANGED END

## Class 150#

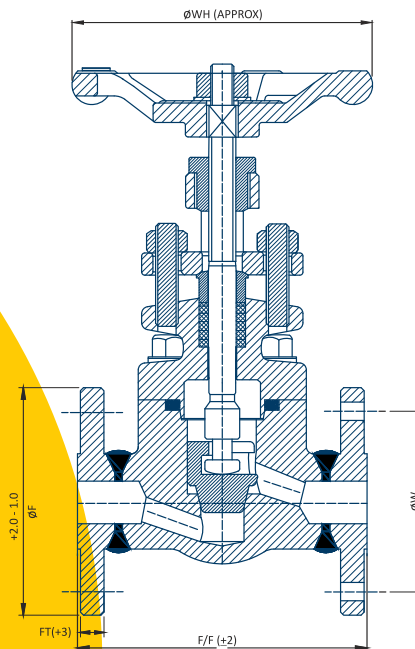
VALVE SIZE INCH MM	F/F	ØF	FT	ØW	ØHW	WT KG
½" 15	108	90	9.6	60.3	86	2.6
¾" 20	117	100	11.2	69.6	86	3.5
1" 25	127	110	12.7	79.4	116	5.1
1¼" 32	140	115	14.3	88.9	150	8.9
1½" 40	165	125	15.9	98.4	150	9.5
2" 50	203	150	17.5	120.7	150	15.3

## Class 300#

VALVE SIZE INCH MM	F/F	ØF	FT	ØW	ØHW	WT KG
½" 15	152	95	12.7	66.7	86	3.4
¾" 20	178	115	14.3	82.6	86	4.7
1" 25	203	125	15.9	88.9	116	6.8
1¼" 32	216	135	17.5	98.4	150	10.9
1½" 40	229	155	19.1	114.3	150	12.5
2" 50	267	165	20.7	127	150	17.9

## Class 600#

VALVE SIZE INCH MM	F/F	ØF	FT	ØW	ØHW	WT KG
½" 15	165	95	14.3	66.7	86	3.6
¾" 20	190	115	15.9	82.6	86	5.1
1" 25	216	125	17.5	88.9	116	7.2
1¼" 32	229	135	20.7	98.4	150	11.7
1½" 40	241	155	22.3	114.3	150	13.5
2" 50	292	165	25.4	127	150	19.9

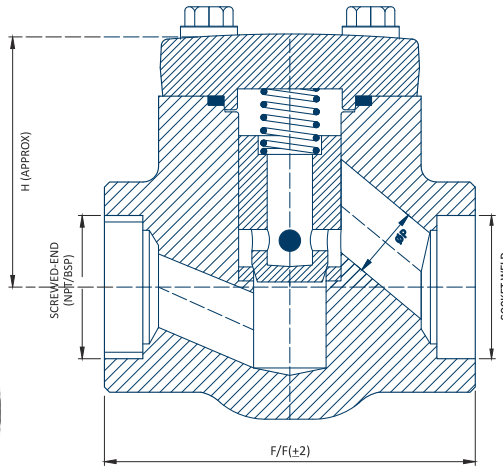
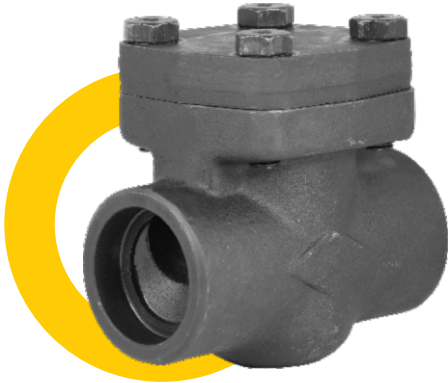


Dimensions (in mm, unless specified)



# FORGED CHECK VALVE

SOCKET WELD & SCREWED END



## Class 800#

VALVE SIZE INCH	MM	F/F	ØP	H	WT KG
½"	15	87	9.5	53	1.0
¾"	20	92	12.7	56	1.3
1"	25	106	17.5	66	2.2
1¼"	32	127	23.8	86	4.9
1½"	40	127	28.6	86	4.7
2"	50	142	36.5	104	8.2

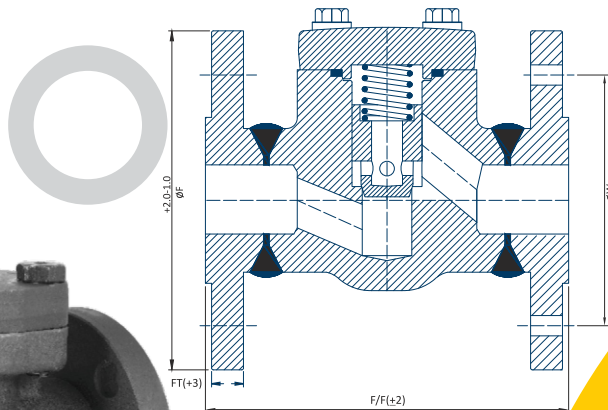
## Class 1500#

VALVE SIZE INCH	MM	F/F	ØP	H	WT KG
½"	15	92	8.0	56	1.5
¾"	20	106	9.0	66	2.5
1"	25	127	14.0	86	5.6
1¼"	32	142	20.0	104	5.4
1½"	40	142	25.0	104	9.4

## Class 2500#

VALVE SIZE INCH	MM	F/F	ØP	H	WT KG
½"	15	106	7.0	66	2.9
¾"	20	127	12.5	86	6.4
1"	25	142	15.5	104	10.8

FLANGED END



## Class 150#

VALVE SIZE INCH	MM	F/F	ØF	FT	ØW	WT KG
½"	15	108	90	9.6	60.3	2.0
¾"	20	117	100	11.2	69.9	2.9
1"	25	127	110	12.7	79.4	4.2
1¼"	32	140	115	14.3	88.9	7.3
1½"	40	165	125	15.9	98.4	7.9
2"	50	203	150	17.5	120.7	13.4

## Class 300#

VALVE SIZE INCH	MM	F/F	ØF	FT	ØW	WT KG
½"	15	152	95	12.7	66.7	2.8
¾"	20	178	115	14.3	82.6	4.1
1"	25	203	125	15.9	88.9	6.0
1¼"	32	216	135	17.5	98.4	9.3
1½"	40	229	155	19.1	114.3	10.9
2"	50	267	165	20.7	127	16.0

## Class 600#

VALVE SIZE INCH	MM	F/F	ØF	FT	ØW	WT KG
½"	15	165	95	14.3	66.7	3.0
¾"	20	190	115	15.9	82.6	4.2
1"	25	216	125	17.5	88.9	6.4
1¼"	32	229	135	20.7	98.4	10.1
1½"	40	241	155	22.3	114.3	11.9
2"	50	292	165	25.4	127	18.0

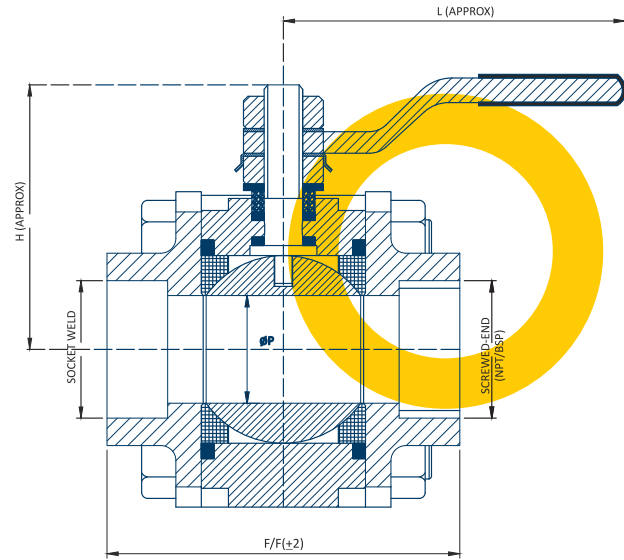
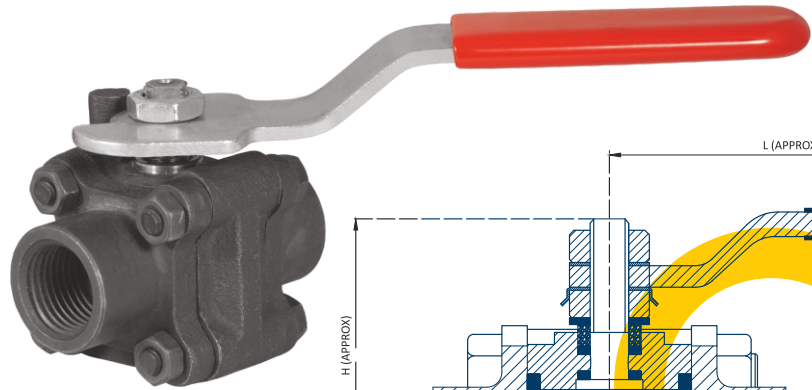
Dimensions (in mm, unless specified)

# FORGED BALL VALVE

SOCKET WELD & SCREWED END

## Class 800#

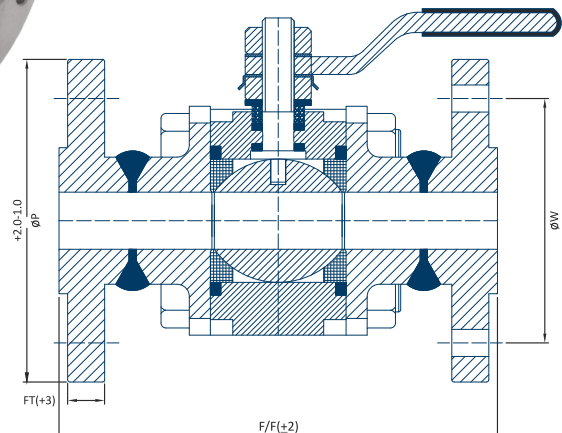
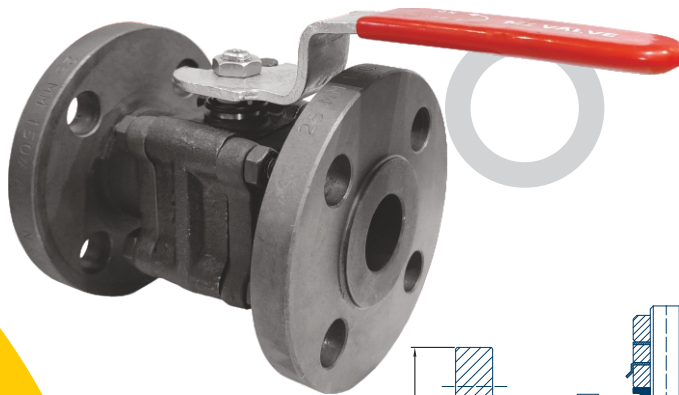
VALVE SIZE		F/F	ØP	H	L	WT
INCH	MM					KG
½"	15	68	10.0	38	128	0.7
¾"	20	73	14.0	40	128	1.0
1"	25	96	20.0	53	155	1.9
1¼"	32	103	25.0	86	165	2.5
1½"	40	116	30.5	75	200	3.3
2"	50	128	37.3	80	200	4.7



FLANGED END

## Class 150#

VALVE SIZE		F/F	ØF	FT	ØW	WT
INCH	MM					KG
½"	15	108	90	9.6	60.3	1.7
¾"	20	117	100	11.2	69.9	2.6
1"	25	127	110	12.7	79.4	3.9
1¼"	32	140	115	14.3	88.9	4.9
1½"	40	165	125	15.9	98.4	6.5
2"	50	203	150	17.5	120.7	9.9



## Class 300#

VALVE SIZE		F/F	ØF	FT	ØW	WT
INCH	MM					KG
½"	15	140	95	12.7	66.7	2.5
¾"	20	152	115	14.3	82.6	3.8
1"	25	165	125	15.9	88.9	5.7
1¼"	32	178	135	17.5	98.4	6.9
1½"	40	190	155	19.1	114.3	9.5
2"	50	216	165	20.7	127	12.5

## Class 600#

VALVE SIZE		F/F	ØF	FT	ØW	WT
INCH	MM					KG
½"	15	165	95	14.3	66.7	2.7
¾"	20	190	115	15.9	82.6	4.2
1"	25	216	125	17.5	88.9	6.1
1¼"	32	229	135	20.7	98.4	7.7
1½"	40	241	155	22.3	114.3	10.5
2"	50	292	165	25.4	127	14.5

evo valves™

Dimensions (in mm, unless specified)

# SPECIFICATIONS FOR FORGED BALL VALVES

## MATERIAL DETAILS

No.	DESCRIPTION	A105N	F304L	F316L	LF2
1	BODY & END PIECE	ASTM A105N	ASTM A182 GR. F304L	ASTM A182 GR. F316L	ASTM A350 GR. LF2
2	FLANGE	ASTM A105N	ASTM A182 GR. F304L	ASTM A182 GR. F316L	ASTM A350 GR. LF2
3	SEAT RING	CARBON FILLED TEFLON	CARBON FILLED TEFLON	CARBON FILLED TEFLON	CARBON FILLED TEFLON
4	BALL	ASTM A276 GR. SS-304	ASTM A276 GR. SS-304	ASTM A276 GR. SS-316	ASTM A276 GR. SS-304
5	STEM	ASTM A276 GR. SS-304	ASTM A276 GR. SS-304	ASTM A276 GR. SS-316	ASTM A276 GR. SS-304
6	O RING	CARBON FILLED TEFLON	CARBON FILLED TEFLON	CARBON FILLED TEFLON	CARBON FILLED TEFLON
7	HEX BOLT	ASTM A193 GR. B7	ASTM A193 GR. B8	ASTM A193 GR. B8M	ASTM A320 GR. L7
8	GLAND PACKING	CARBON FILLED TEFLON	CARBON FILLED TEFLON	CARBON FILLED TEFLON	CARBON FILLED TEFLON
9	HANDLE	CARBON STEEL + ZINC PLATED	CARBON STEEL + ZINC PLATED	CARBON STEEL + ZINC PLATED	CARBON STEEL + ZINC PLATED

## APPLICATION STANDARDS

DESIGN AND MANUFACTURE CONFORM TO	
BS EN ISO 17292	
CONNECTION ENDS CONFORM TO	
SOCKET WELD STANDARD	ASME B16.11
SCREWED END STANDARD	ASME B1.20.1.1
BUTT-WELD STANDARD	ASME B16.25
FLANGED END STANDARD	ASME B16.5
FACE TO FACE FOR GENERAL	MANUFACTURER'S STANDARD
FACE TO FACE FOR FLANGED END	ASME B16.10
TESTING STANDARD	
BS EN 12266-1	
PRESSURE & TEMP RATING STANDARD	
ASME B16.34	
MATERIALS CONFORM TO ANSI/ASTM	
MAIN MATERIALS	
CARBON STEEL	A105, LF2
ALLOY STEEL	F5, F9, F11, F22, F91
STAINLESS STEEL	F304L, F316L
DUPLEX STEEL	F51, F53, F55

## HYDRO TEST PRESSURE (kg/cm<sup>2</sup>)

TESTING	150#	300#	600#	800#
BODY	22	56	76	76
SEAT	22	56	115	221
PNEUMATIC SEAT – 7 kg/cm <sup>2</sup>				

# SPECIFICATIONS FOR FORGED GATE, GLOBE & CHECK VALVES

## APPLICATION STANDARDS

DESIGN AND MANUFACTURE CONFORM TO	
API 602 FOR GATE VALVE, ISO 15761 FOR GLOBE & CHECK VALVE	
CONNECTION ENDS CONFORM TO	
SOCKET WELD STANDARD	ASME B16.11
SCREWED END STANDARD	ASME B1.20.1.1
BUTT-WELD STANDARD	ASME B16.25
FLANGED END STANDARD	ASME B16.5
FACE TO FACE FOR GENERAL	MANUFACTURER'S STANDARD
FACE TO FACE FOR FLANGED END	ASME B16.10
TESTING STANDARD	
API 598	
PRESSURE & TEMP RATING STANDARD	
ASME B16.34	
MATERIALS CONFORM TO ANSI/ASTM	
MAIN MATERIALS	
CARBON STEEL	A105, LF2
ALLOY STEEL	F5, F9, F11, F22, F91
STAINLESS STEEL	F304L, F316L
DUPLEX STEEL	F51, F53, F55

## HYDRO TEST PRESSURE (kg/cm<sup>2</sup>)

TESTING	150#	300#	600#	800#	1500#	2500#
BODY	32	78	156	221	390	655
SEAT	22	56	115	153	290	485
BACK SEAT	22	56	115	153	290	485
PNEUMATIC SEAT – 7 kg/cm <sup>2</sup>						



# SPECIFICATIONS FOR FORGED GATE, GLOBE & CHECK VALVES

## MATERIAL DETAILS FOR GATE AND GLOBE VALVES

No.	DESCRIPTION	A105N	F304L	F316L	LF2
1	BODY & END PIECE	ASTM A105N	ASTM A182 GR. F304L	ASTM A182 GR. F316L	ASTM A350 GR. LF2
2	FLANGE	ASTM A105N	ASTM A182 GR. F304L	ASTM A182 GR. F316L	ASTM A350 GR. LF2
3	WEDGE / PLUG	ASTM A217 GR. CA-15	ASTM A351 GR. CF8	ASTM A351 GR. CF8M	ASTM A351 GR. CF8
4	SEAT RING	ASTM A276 GR. SS-410	ASTM A276 GR. SS-304 / INTEGRAL	ASTM A276 GR. SS-316 / INTEGRAL	ASTM A276 GR. SS-304
5	STEM	ASTM A276 GR. SS-410	ASTM A276 GR. SS-304	ASTM A276 GR. SS-316	ASTM A276 GR. SS-304
6	YOKE SLEEVE	BS970 : EN1A	BS970 : EN1A	BS970 : EN1A	BS970 : EN1A
7	GASKET	SS-304 + SPIRAL WOUND GRAPHITE FILLER	SS-304 + SPIRAL WOUND GRAPHITE FILLER	SS-316 + SPIRAL WOUND GRAPHITE FILLER	SS-304 + SPIRAL WOUND GRAPHITE FILLER
8	GLAND PACKING	GRAPHITE RING	GRAPHITE RING	GRAPHITE RING	GRAPHITE RING
9	HEX BOLT	ASTM A193 GR. B7	ASTM A193 GR. B8	ASTM A193 GR. B8M	ASTM A320 GR. L7
10	HANDLE	MI/SG IRON	MI/SG IRON	MI/SG IRON	MI/SG IRON

## MATERIAL DETAILS FOR CHECK VALVES

No.	DESCRIPTION	A105N	F304L	F316L	LF2
1	BODY & END PIECE	ASTM A105N	ASTM A182 GR. F304L	ASTM A182 GR. F316L	ASTM A350 GR. LF2
2	FLANGE	ASTM A105N	ASTM A182 GR. F304L	ASTM A182 GR. F316L	ASTM A350 GR. LF2
3	CHECK PLUG	ASTM A276 GR. SS-410	ASTM A276 GR. SS-304	ASTM A276 GR. SS-316	ASTM A276 GR. SS-304
4	SEAT RING	ASTM A276 GR. SS-410	ASTM A182 GR. SS-304L INTEGRAL	ASTM A182 GR. SS-316L INTEGRAL	ASTM A276 GR. SS-304
5	SPRING	ASTM A313 GR. SS-304	ASTM A313 GR. SS-304	ASTM A313 GR. SS-304	ASTM A313 GR. SS-304
6	GASKET	SS-304 + SPIRAL WOUND GRAPHITE FILLER	SS-304 + SPIRAL WOUND GRAPHITE FILLER	SS-316 + SPIRAL WOUND GRAPHITE FILLER	SS-304 + SPIRAL WOUND GRAPHITE FILLER
7	HEX BOLT	ASTM A193 GR. B7	ASTM A193 GR. B8	ASTM A193 GR. B8M	ASTM A320 GR. L7

# FLOW COEFFICIENT CV



Valve property - Cv is defined as follows. "The Flow Coefficient Cv states the flow capacity of a valve in U.S. gallons per minute of water at a standard temperature of 70°F (21.1°C) that will flow through the valve with a pressure loss of one pound per square inch at a specific opening position." For the metric system the analog value is Kv where measure unit are Bar, Kg and meters. The Cv shows the quality and accuracy of a valve in terms of pressure loss, the highest values of Cv indicate the highest quality of a valve.

VALVE SIZE	REGULAR PORT		
	GATE VALVE	GLOBE VALVE	CHECK VALVE
1/4"	4.50	1.00	0.50
3/4"	11.00	2.80	2.80
1"	26.00	5.80	5.00
1 1/4"	54.00	10.00	8.50
1 1/2"	79.00	13.30	10.00
2"	104.00	24.00	17.00

Using Cv definition, through the means of a specifically built test rig, it has been obtained 1 Bar of pressure loss and flow has been verified with specific equipment. Calculation is possible to convert the measure to Cv.

## Flow - Rate

$$Q = C_v \sqrt{\frac{\Delta p}{S}}$$

## Pressure Drop

$$\Delta p = S \left( \frac{Q}{C_v} \right)^2$$

For liquids other than water

$\Delta p$  = Pressure drop (p.s.i.)

Q = Liquid flow in gallons per minute (GPM)

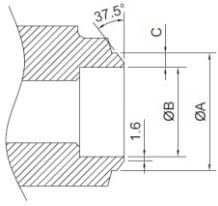
S = Specific gravity of liquid relative to water (70°F)

Cv = Valves flow coefficient

Conversion Table to Metric STD		
Flow Coefficient	Cv	Kv
Cv	1	0.865
Kv	1.156	1

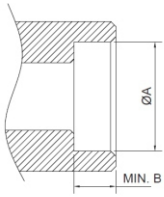
# EVO VALVES STANDARD TRIM DEFINITION

API TRIM NO.	NOMINAL TRIM	STEM	DISC / WEDGE	SEAT	GLAND BUSH
1	F6	410 (13 Cr)	F6 (13 Cr)	410 (13 Cr)	410 (13 Cr)
2	304	304 (17Cr-8Ni)	304 (17Cr-8Ni)	304 (17Cr-8Ni)	304 (17Cr-8Ni)
5	HARDFACED	410 (13 Cr)	F6 + St GR. 6 (CoCr Alloy)	410 + St GR. 6(CoCr Alloy)	410 (13 Cr)
8	F6 & HARDFACED	410 (13 Cr)	F6 (13 Cr)	410 + St GR. 6(CoCr Alloy)	410 (13 Cr)
9	MONEL	MONEL (NiCu Alloy)	MONEL (NiCu Alloy)	MONEL (NiCu Alloy)	70Ni-30Cu
10	316	316 (18Cr-8Ni-Mo)	316 (18Cr-8Ni-Mo)	316 (18Cr-8Ni-Mo)	316 (18Cr-8Ni-Mo)
11	MONEL & HARDFACED	MONEL (NiCu Alloy)	MONEL (NiCu Alloy)	MONEL + St GR. 6	70Ni-30Cu/1/2Co-Cr-A
12	316 & HARDFACED	316 (18Cr-8Ni-Mo)	316 (18Cr-8Ni-Mo)	316+ St GR. 6	316 (18Cr-8Ni-Mo)
15	HARDFACED (304)	304 (17Cr-8Ni)	304 + St GR. 6	304 + St GR. 6	304 (17Cr-8Ni)
16	316- FULL HARDFACED	316 (18Cr-8Ni-Mo)	316(18Cr-8Ni-Mo)+St GR.6	316 + St GR. 6	316 (18Cr-8Ni-Mo)

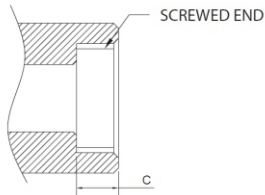


Butt Weld End  
as per B16.25.

SIZE		Sch. 40			Sch. 80			Sch. 160			Sch. XXS		
INCH	MM	A	B	C	A	B	C	A	B	C	A	B	C
1/2"	15	21.30	15.80	2.77	21.30	13.80	3.73	21.30	11.70	4.78	21.30	6.40	7.74
3/4"	20	26.70	25.00	2.87	26.70	18.90	3.91	26.70	15.60	5.56	26.70	11.10	7.82
1"	25	33.40	26.60	3.38	33.40	24.30	4.55	33.40	20.70	6.35	33.40	15.20	9.09
1 1/4"	32	42.20	35.10	3.55	42.20	32.50	4.85	42.20	29.50	6.35	42.20	22.80	9.70
1 1/2"	40	48.30	41.00	3.68	48.30	38.10	5.08	48.30	33.50	7.41	48.30	28.00	10.15
2"	50	60.30	52.50	3.91	60.30	49.20	5.54	60.30	42.90	8.74	60.30	38.20	11.07



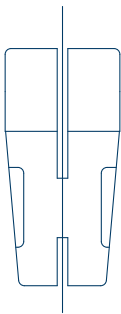
Socket End  
as per B16.11.



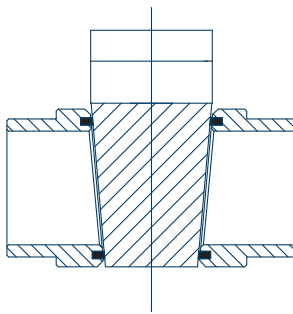
Screwed End (BSP or NTP or BSPT)  
as per B1.20.1.

SIZE		ØA (SOCKET ID)	B (SOCKET DEPTH)	C (SCREWED DEPTH)
INCH	MM			
1/2"	15	21.8	9.5	14
3/4"	20	27.2	12.5	16
1"	25	33.9	12.5	20
1 1/4"	32	42.7	12.5	20
1 1/2"	40	48.8	12.5	24
2"	50	61.2	16	26

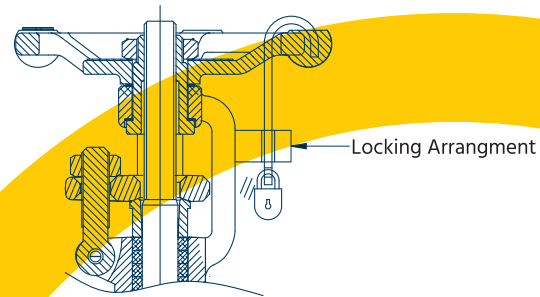
## OPTIONAL FEATURES



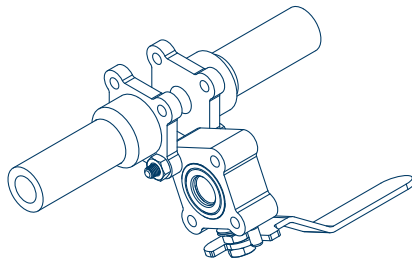
Flexible Wedge



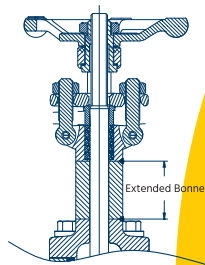
Inserted PTFE



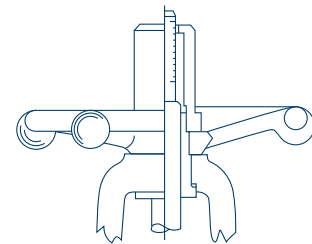
Locking Arrangement



Nipple Extension



Extended Bonnet



Position Indicator



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