

# Type ISO-FS-HF & ISO-FSN-HF

## HF Alkylation plug valves

*Safety first!*

- certified by licensor UOP-Honeywell for HF Alkylation process
- listed in UOP piping specifications: HF-1, HF-10, HF-2, HF-20
- completely safe to operator and environment
- 100% tightness to atmosphere

### Design characteristics

- triple stem packing
- Fire-Safe - API 607 / ISO 10497
- full Monel body, plug, cover
- special acid detection paint for visual leakage indication

### Testing and Materials

- 100% radiographic inspection of valve bodies
- 100% Helium shell testing with 32 bar (460 psig)
- 100% hydrostatic testing of 1,5x nominal pressure - paraffin oil
- 100% seat closure testing with air (6 bar / 87 psig)

### Options

- vented plug
- other pressure rating
- different plug valve types

Type ISO-FSN-HF



## Type overview

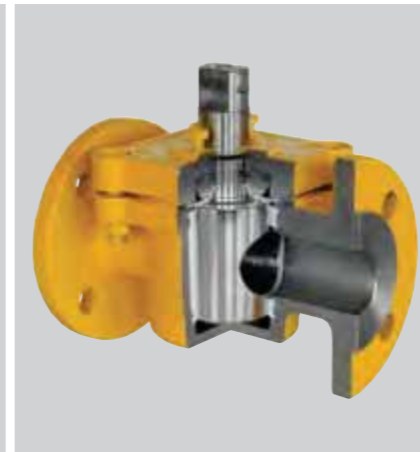


Type ISO-FSN-HF / ISO-FS-HF

- STANDARD design
- for HF Alkylation process
- certified by UOP
- sealing system optional FSN / FS

NPS ½ - 24 / Class 300

Range of application  
-29°C (-20°F) bis 220°C (428°F)



Type ISO-EXTRA-FS-HF

- full round bore plug
- 2- up to 5-way

DN 15 - 600 / PN 10 - 100  
NPS ½ - 24 / Class 150 - 600

Range of application:  
-60 < T < 230/280°C,  
vacuum-capable



Type ISO-MB-FS-HF

- Plug valves with threaded ends
- 2- up to 5-way

NPS ½ - 3 / Class 150 - 600

Range of application:  
-60 < T < 230/280°C,  
vacuum-capable

### Reliable and tight for years

- complete chambering of PTFE sleeve
- twisting or cold-flow of sleeve eliminated
- self-cleaning / maintenance-free
- SIL 3 suitable

### Free of cavities

- no contamination or media scaling

### Perfect tightness in-line and to atmosphere

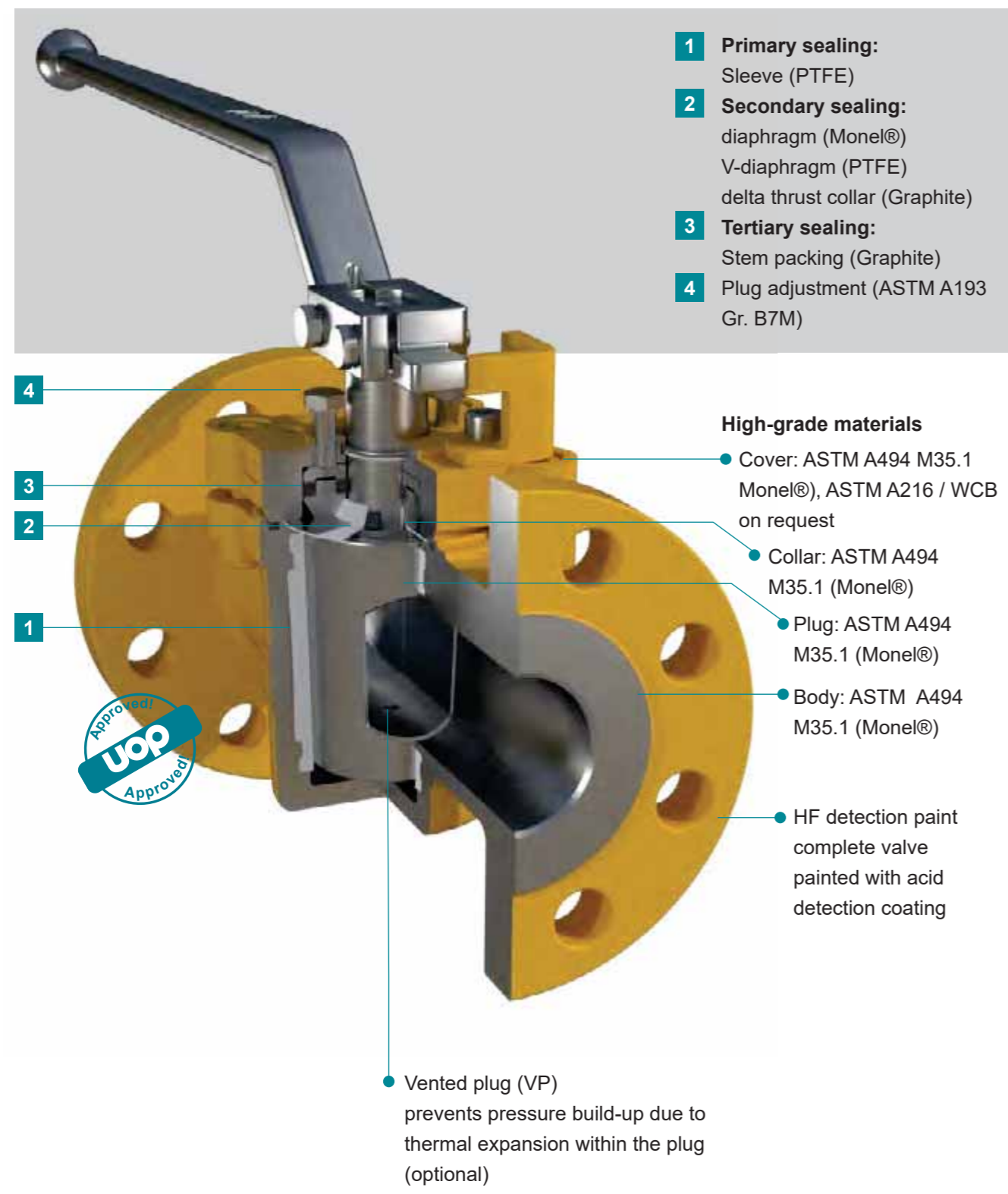
- plug adjustment
- very low emission values acc. to TA-Luft and EPA 21
- High performance safety sealing with triple stem packing

### In addition to HF alkylation plants, AZ plug valves are the best choice in many other refinery processes, e.g.:

- Sulphur alkylation (H<sub>2</sub>SO<sub>4</sub> alkylation)
- Desulphurisation, Sulphur recovery
- Crude Oil
- Tank Farms
- Jet Fuel
- Flare Gas
- LPG

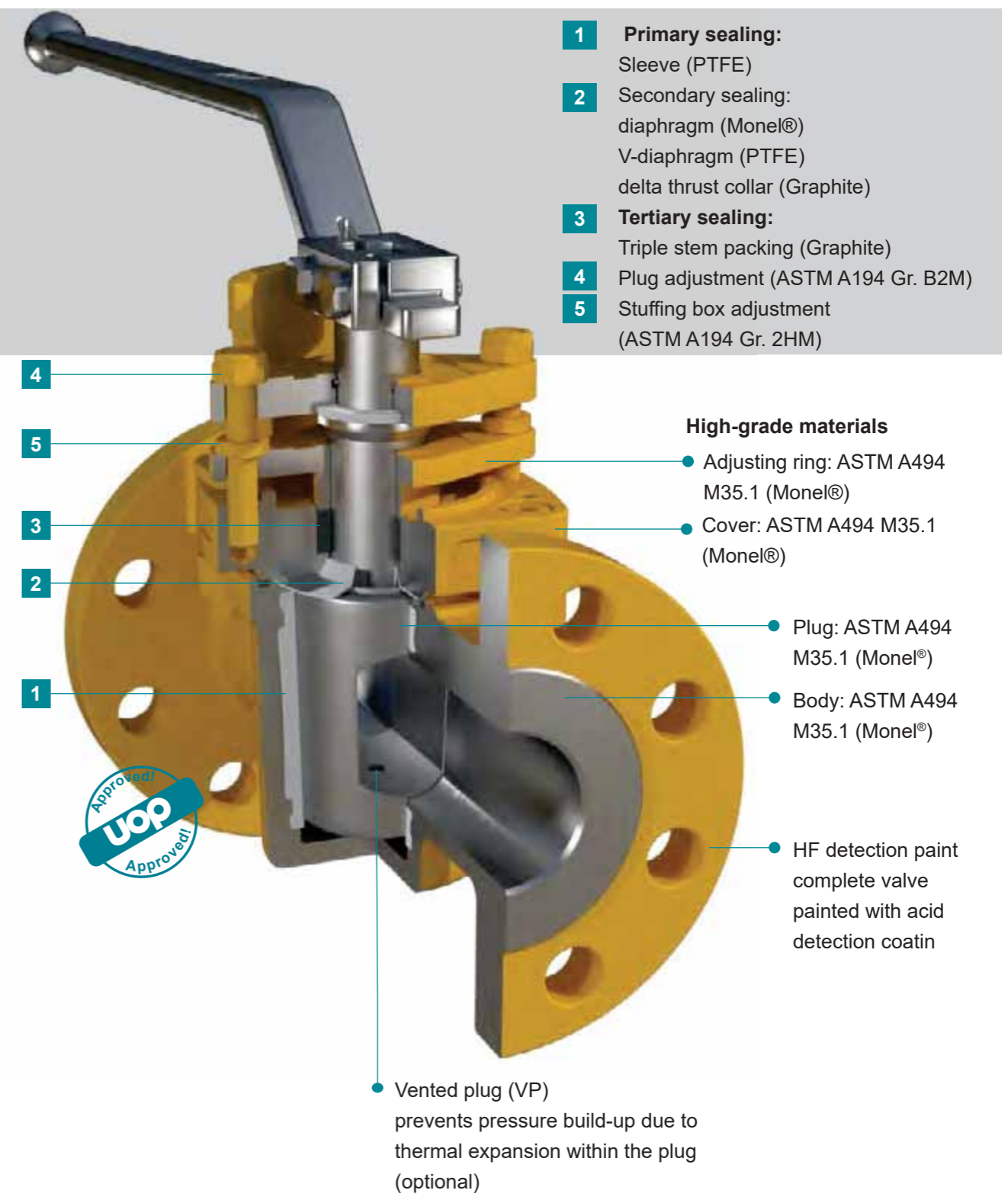
## Type ISO-FS-HF

Plug valve with Fire-Safe sealing



## Type ISO-FSN-HF

Plug valve with triple safety stem packing, Fire-Safe

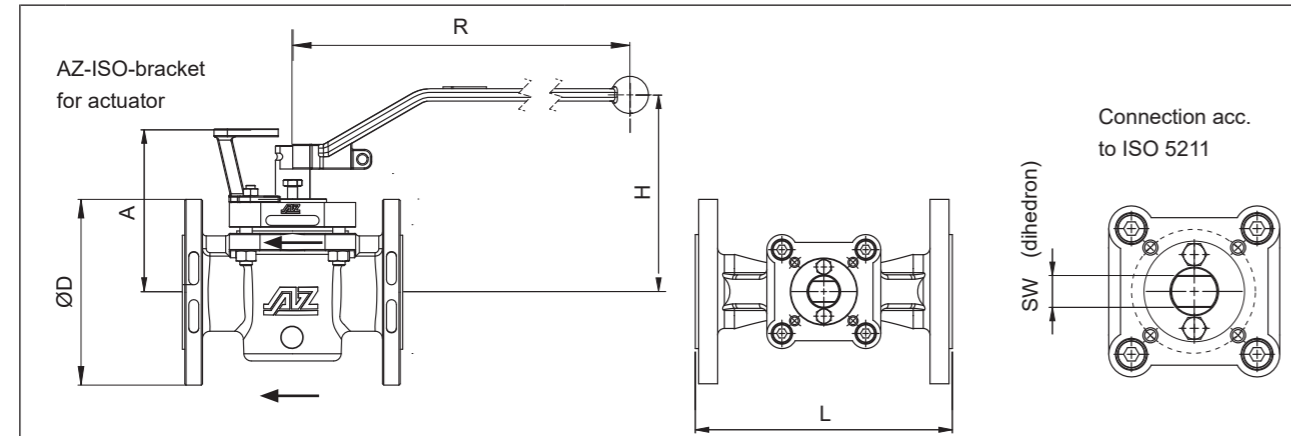


Listed in UOP piping specifications:  
HF-1, HF-10, HF-2, HF-20

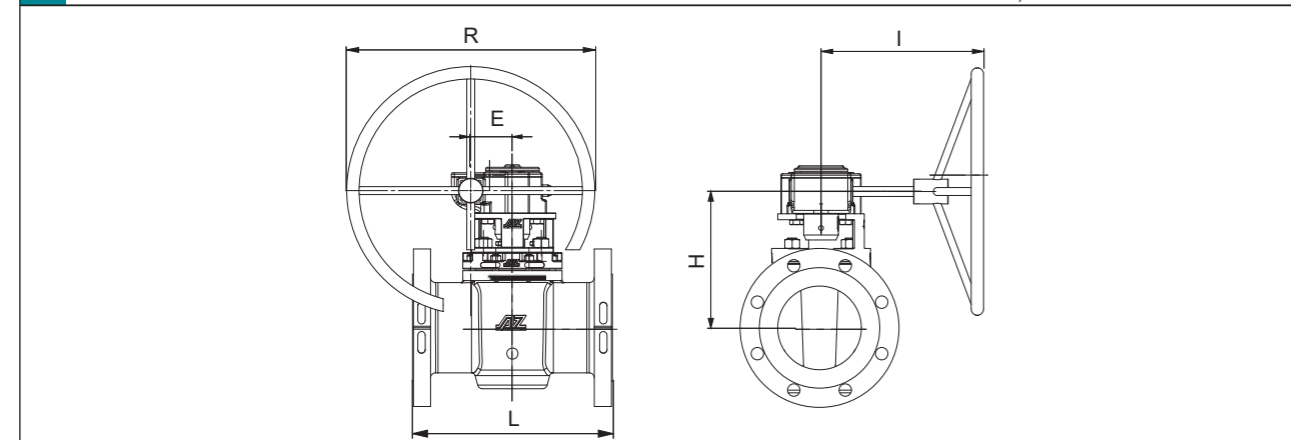
Listed in UOP piping specifications:  
HF-1, HF-10, HF-2, HF-20

# Type ISO-HF

## Technical information



ASME B16.34	NPS	Class	UOP no.	L [mm]	øD [mm]	bracket / lever			DIN flange	SW [mm]	torque* [Nm]	weight [kg]	K <sub>vs</sub> [m³/h]	C <sub>v</sub> [US.gal/min]
						A	H	R						
	½	300	016580-1	140	95	88	102	200	F05	11	30	3,1	13	15
	¾	300	016580-1	152	115	88	102	200	F05	11	30	4,0	13	15
	1	300	016580-1	165	125	94	110	200	F05	11	30	4,9	26	31
	1½	300	016580-1	190	155	109	125	320	F07	14	80	9,6	79	92
	2	300	016580-1	216	165	139	160	420	F07	19	120	13,3	156	180
	3	300	016580-1	283	210	158	165	600	F10	22	200	24,5	228	264
	4	300	016580-1	305	255	158	165	600	F10	22	200	33,5	198	229



ASME B16.34	NPS	Class	UOP no.	L [mm]	øD [mm]	gearbox (Pro-Gear) [mm]				DIN flange	SW [mm]	torque* [Nm]	weight [kg]	K <sub>vs</sub> [m³/h]	C <sub>v</sub> [US.gal/min]	
						E	R	H	I	Type						
	4S	300	016580-5	305	255	69	300	225	280	Q1500-S	F16	27	900	46	542	627
	6	300	016580-3	403	320	84	500	277	328	Q1500-S	F16	27	900	97	775	896
	8	300	016580-3	419	380	118	500	321	363	Q3000-S	F16	36	1200	113	1978	2286
	10	300	016580-3	457	445	118	500	361	328	Q5000-S	F16	36	1500	181	2382	2754
	12	300	016580-3	502	520	118	500	377	328	Q5000-S	F16	36	2600	216	1925	2225
	14	300	016580-13	762	585	138	500	460	465	Q6500-S	F25	46	5500	210	2394	2768
	16	300	016580-13	600	650	138	700	475	465	Q6500-S	F25	46	5500	410	4618	5339
	18	300	016580-13	914	710	180	700	515	545	Q12000-S	F30	55	6400	780	9135	10561
	20	300	**	991	775	180	700	515	520	Q12000-S	F30	55	7500	825	9863	11405
	24	300	**	1143	915	180	700	515	520	Q12000-S	F30	55	7500	1070	9509	10993

\*) inclusive 100 % safety factor on torques

\*\*) in preparation for UOP certification

Some designs, sizes and/or configurations may be fitted with threaded flange holes.

Temperature range: T<sub>min</sub> -29°C / T<sub>max</sub> 220°C

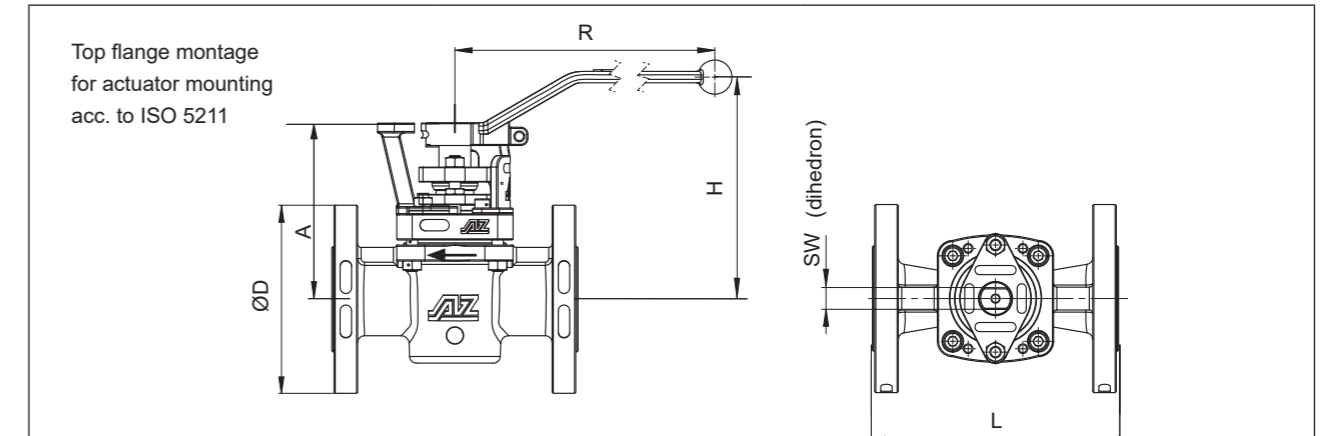
**Order Example: ISO-FS-HF-NPS8-016580-3-Monel-Monel**

ISO-FS-HF = type, NPS8 = size, 016580-3 = UOP-drawing no., Monel = material body, plug etc.,

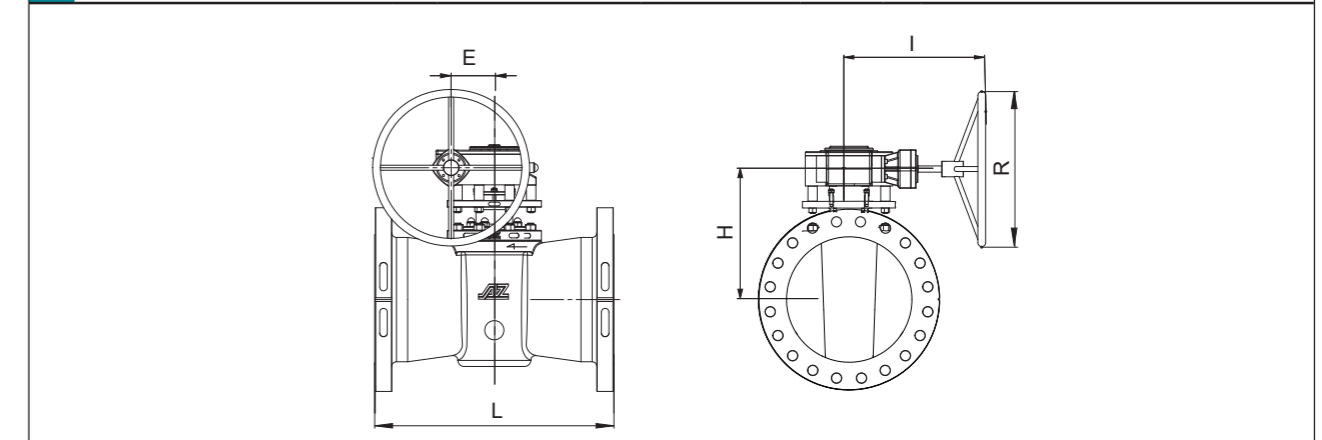
Monel = material cover

# Type ISO-FSN-HF

## Technical information



ASME B16.34	NPS	Class	UOP no.	L [mm]	øD [mm]	bracket / lever [mm]			top flange	SW [mm]	torque* [Nm]	weight [kg]	K <sub>vs</sub> [m³/h]	C <sub>v</sub> [US.gal/min]
						A	H	R						
	½	300	016580	140	95	88	125	200	F07	11	30	4,0	13	15
	¾	300	016580	152	115	88	125	200	F07	11	30	4,3	13	15
	1	300	016580	165	125	94	135	200	F07	11	30	4,9	26	31
	1½	300	016580	190	155	109	170	320	F07/F10	14	80	10,5	79	92
	2	300	016580	216	165	139	195	420	F10/F12	19	120	15,3	156	180
	3	300	016580	283	210	158	205	600	F10/F12	22	200	25,5	228	264
	4	300	016580	305	255	158	238	600	F10/F12	22	200	34,5	198	229



ASME B16.34	NPS	Class	UOP no.	L [mm]	øD [mm]	gearbox (Pro-Gear) [mm]				top flange	SW [mm]	torque* [Nm]	weight [kg]	K <sub>vs</sub> [m³/h]	C <sub>v</sub> [US.gal/min]	
						E	R	H	I	Type						
	4S	300	016580-4	305	255	69	300	260	280	Q1500-S	F12	27	900	48	542	627
	6	300	016580-2	403	320	84	500	330	328	Q1500-S	F12	27	900	100	775	896
	8	300	016580-2	419	380	118	500	385	363	Q3000-S	F14	36	1200	116,5	1978	2286
	10	300	016580-2	457	445	118	500	435	328	Q5000-S	F16	36	1500	185	2382	2754
	12	300	016580-2	502	520	118	500	450	328	Q5000-S	F16	36	2600	220	1925	2225
	14	300	016580-14	762	585	138	500	510	465	Q6500-S	F16	46	5500	220	2394	2768
	16	300	016580-14	600	650	138	700	525	465	Q6500-S	F16	46	5500	425	4618	5339
	18	300	016580-14	914	710	180	700	565	545	Q12000-S	F25	55	6400	795	9135	10561
	20	300	**	991	775	180	700	515	520	Q12000-S	F25	55	7500	825	9863	11405
	24	300	**	1143	915	180	700	515	520	Q12000-S	F25	55	7500	1070	9509	10993

\*) inclusive 100 % safety factor on torques

\*\*) in preparation for UOP certification

Some designs, sizes and/or configurations may be fitted with threaded flange holes.

Temperature range: T<sub>min</sub> -29°C / T<sub>max</sub> 220°C

**Order Example: ISO-FSN-HF-NPS4-016580-Monel-Monel**

ISO-FSN-HF = type, NPS4 = size, 016580 = UOP-drawing no., Monel = material body, plug etc.,

Monel = material cover