

H-500 FEATURES

- Low fugitive emissions-Certified for ISO 15848-1:2006 (E)
- Precision investment cast body in CF8M stainless steel
- Precision Investment cast end caps in CF3M stainless steel
- Blow-out proof stem with Belleville washer design for long life stem sealing
- Integrated locking device
- Manual, pneumatic and electric operation
- Variable end connection types and sizes from 1/4" to 2" or 6mm to 50mm
- Stainless steel construction
- Flow coefficient (Cv) from 1.2 to 24.0
- MAWP* 3000 psig (206 barg), 2000 psig (137 barg) for "-FP" option
- MAWT** 450°F (232°C)
- H-500S seat material is modified PTFE as standard
- *Maximum Allowed Working Pressure
- ** Maximum Allowed Working Temperature

MATERIALS OF CONSTRUCTION 11 No. Components Material Qty 1 Handle SST 304 2 Stem Nut SST 304 2 Stem Washer SST 316 1 10 4 Lock Saddle SST 304 1 5 Belleville Washer SST 304 2 6 Gland SST 304 1 7 Stem Packing MG1241 / PTFE 1 8 Stem Seal* MG1241 2 2 9 Stem* SST 316 1 SST 316 10 Locking Device 1 11 Handle Sleeve Vinyl 1 12 Stop Pin SST 304 1 13 Tightening Bolt SST 304 4 6 14 End Cap* ASTM A351 Gr. CF3M 2 7 15 Joint Gasket* PTFE 2 PTFE 16 Seat 2 17 Body* ASTM A351 Gr. CF8M 1 18 Ball* SST 316 1 19 Front Ferrule SST 316 2 9 SST 316 2 20 Back Ferrule 21 Nut SST 316 2 22 Washer SST 316 4 23 Body Nut SST 316 4 Lubricants Silicone Based 13 Note: If seat material other than PTFE is selected, Joint 14 Gasket and Stem Packing are changed accordingly. 15 16 17 18 16 15 14 19 20 21 22

GENERAL

The H-500 series is a moderate-pressure instrumentation ball valve for general service and instrumentation panels. The valves offer large ports for high flow, tight shutoff, long-life service and low operating torque.

The H-500 series can be used for bi-directional flow, is rated to maximum 3,000 psig (204 bar) and performs as on/off service.

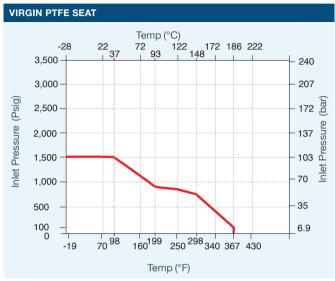
PACKING ADJUSTMENT

Due to the varied service applications of the valve, packing adjustment may occasionally be necessary. Packing is factory adjusted to 1.000 psig service. Please find more information on H-500 under Installation Instructions.

Initial packing adjustment is recommended after installation and prior to start-up

Valves that have not been operated for a period of time will introduce a higher actuation torque.

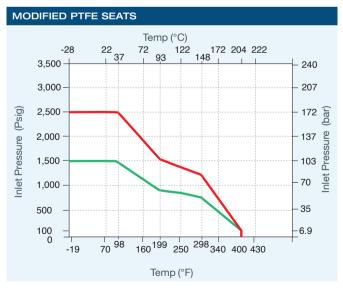
PRESSURE TEMPERATURE RATING



PTFE (Virgin PTFE) Color-White

PTFE is a good all around, general-purpose seat material. PTFE has outstanding resistance to chemical attacks by a broad range of organic chemicals, inorganic chemicals and solvents, and is generally considered chemically inert. PTFE is a self lubricating polymer with a very low coefficient of friction, which makes an excellent seat material.

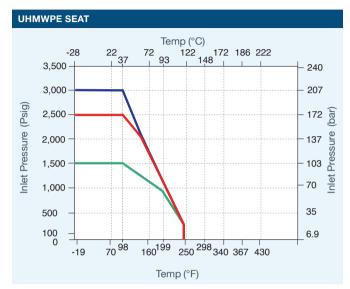
For all sizes



MODIFIED PTFE - (PFA and PTFE composite) Color-Bright White

MODIFIED PTFE is an excellent seat material for purity applications and has very low residual material during operation. It has a lower deformation ratio than PTFE, but a higher pressure and temperature rating than PTFE. Chemical resistance is equal to PTFE material.





UHMWPE Ultra High Molecular Weight Polyethylene

UHMWPE is a very tough material, highly resistant to corrosive chemicals and suitable for low-radiation service. UHMWPE is self-lubricating, highly resistant to abrasion, has an extremely low moisture absorption and a very low coefficient of friction.

Up to 1/2" 3/4" to 1" 1-1/4" to 2"

TESTING

The H-500 design has been tested for burst and proof. Standard testing for each H-500 valve includes testing with nitrogen at 80 and 1,000 psig. Each valve is tested for leakage through the shell, packing and ball seats. The maximum allowable leakage across the ball seats is 0.1 std cc/min.



⚠ HAM-LET ball valves are designed for operation in the fully closed or fully open position.

CLEANING & PACKAGING

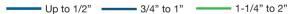
Every H-500 ball valve is cleaned in accordance with Standard Cleaning and Packaging (Procedure 8184). Oxygen Clean & Lubricant-Free Cleaning and Packaging, in accordance with Special Cleaning and Packaging (Procedure 8185), is available as an option.

1 Lubricant-free cleaned valves have significantly higher actuation torque.



SST. Powder Filled PTFE Color - Gray

Excellent seat material for general applications to prevent over expansion and seat extrusion. It has a lower deformation ratio than PTFE, but a higher pressure and temperature rating. Chemical resistance is equal to PTFE material.

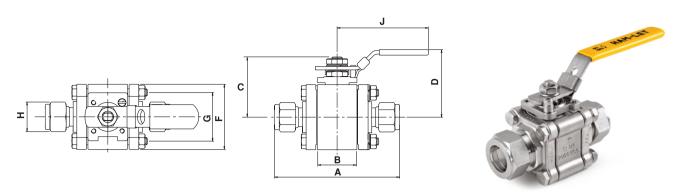




PEEK (Poly Ether Ether Keton) Color-Offwhite

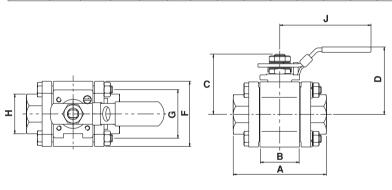
Excellent seat material for high-pressure and high-temperature applications, with excellent chemical resistance. Can be used continuously to 450°F (232°C) and in hot water or steam without permanent loss in physical properties. High strength for hostile environment and high pressure.

Up to 1/2" --- 3/4" to 1" ----- 1-1/4" to 2"



H-500 LET-LOK® CONFIGURATION DIMENSIONS

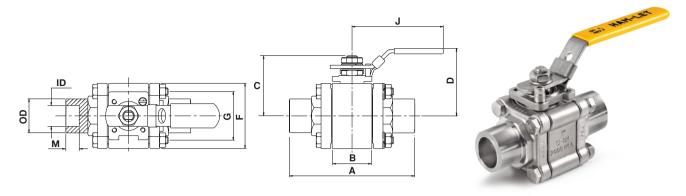
SERIES		nd ection	Ori	fice	Cv	Bal	I ID	F	١	E	3	ı		C	;)	١	1	,	'	G	i
	mm	inch	mm	inch		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
H 5000	6	1/4	4.8	0.19	1.2	4.8	0.19	80.5	3.17	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	14.3	0.56	61.0	2.40	25.5	1.00
H-500S	10	3/8	7.1	0.28	3.7	7.1	0.28	80.5	3.17	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	17.5	0.69	61.0	2.40	25.5	1.00
	6	1/4	4.8	0.19	1.2	10.6	0.42	80.5	3.17	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	14.2	0.56	121.5	4.78	32	1.26
	8	3/8	7.2	0.29	3.7	10.6	0.42	83.3	3.28	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	17.46	0.68	121.5	4.78	32	1.26
H-500	12	1/2	10.3	0.40	7.6	11.0	0.43	92.3	3.63	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	22.2	0.87	121.5	4.78	32.0	1.26
	20	3/4	13.0	0.51	13.6	14.1	0.56	92.7	3.65	24.6	0.97	50.8	2.00	44.0	1.73	60.0	2.36	28.6	1.13	121.5	4.78	38.2	1.50
	25	1	20.0	0.79	36.0	20.0	0.79	124.4	4.90	31.8	1.25	60.0	2.36	56.7	2.23	74.5	2.93	38.1	1.50	151	5.94	44.0	1.73





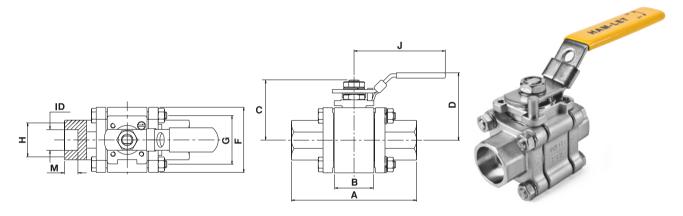
H-510 FEMALE NPT / BSPT STANDARD DIMENSIONS

SERIES	End Connection	Ori	fice	Cv	Bal	I ID	A	١.	E	3	ı		C	;)	ŀ	1	,	J	C	à
	inch	mm	inch		mm	inch	mm	inch	mm	inch												
H-510S	1/4	7.1	0.28	1.2	7.1	0.28	54.9	2.16	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	19.0	0.75	61.0	2.40	25.5	1.00
	1/4	11	0.43	10	11	0.43	70	2.76	20.6	0.81	44	1.73	40.5	1.59	56.5	2.22	27	1.06	121.5	4.78	32	1.26
	3/8	11.0	0.43	10	11.0	0.43	70.0	2.76	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	27.0	1.06	121.5	4.78	32.0	1.26
H-510	1/2	11.0	0.43	10	11.0	0.43	70.0	2.76	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	27.0	1.06	121.5	4.78	32.0	1.26
	3/4	14.1	0.56	12.0	14.1	0.56	74.0	2.91	24.6	0.97	50.8	2.00	44.0	1.73	60.0	2.36	33.0	1.30	121.5	4.78	38.2	1.50
	1	20.0	0.79	36.0	20.0	0.79	99.0	3.90	31.8	1.25	60.0	2.36	56.7	2.23	74.5	2.93	42.0	1.65	151	5.94	44.0	1.73



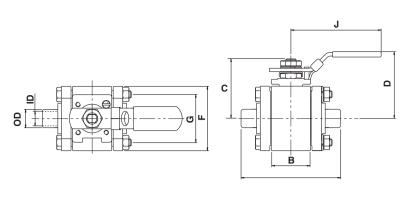
H-510 TUBE SOCKET WELD STANDARD DIMENSIONS

SERIES		nd ection	Ori	fice	Cv	Bal	I ID	Å	١.	E	3	ı	=	(;)	O	D	,	'	(à	II	D	N	/I
	mm	inch	mm	inch		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
11 5400	6	1/4	4.8	0.19	1.2	4.8	0.19	54.9	2.16	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	19.0	0.75	61.0	2.40	25.5	1.00	4.80	0.19	7.10	0.28
H-510S	10	3/8	7.1	0.28	3.7	7.1	0.28	54.9	2.16	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	19.0	0.75	61.0	2.40	25.5	1.00	7.10	0.28	7.90	0.31
	12	1/2	10.3	0.40	7.5	11.0	0.43	70.0	2.76	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	20.5	0.81	121.5	4.78	32.0	1.26	12.85	0.51	12.7	0.50
H-510	20	3/4	14.1	0.56	12.0	14.1	0.56	74.0	2.91	24.6	0.97	50.8	2.00	44.0	1.73	60.0	2.362	27.0	1.06	121.5	4.78	38.2	1.50	19.2	0.76	14.2	0.56
	25	1	22.35	0.88	38.0	22.35	0.88	99.0	3.90	31.8	1.25	60.0	2.36	56.7	2.23	74.5	2.93	34.0	1.34	151.0	5.94	44.0	1.73	25.55	1.08	19.2	0.76



H-510 PIPE SOCKET WELD STANDARD DIMENSIONS

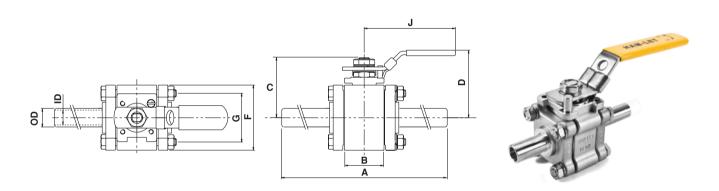
SERIES	End Connection	Ori	ice	Cv	Bal	IID	F	١.	E	3	ı	=	(;)	ŀ	1	,	'	(à	II	D	N	И
	inch	mm	inch		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch												
	1/4	11.0	0.43	10	11.0	0.43	70.0	2.76	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	27.0	1.06	121.5	4.78	32.0	1.26	14.1	0.56	9.70	0.38
	3/8	11.0	0.43	10	11.0	0.43	70.0	2.76	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	27.0	1.06	121.5	4.78	32.0	1.26	17.5	0.69	11.0	0.43
H-510	1/2	11.0	0.43	10	11.0	0.43	70.0	2.76	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	27.0	1.06	121.5	4.78	32.0	1.26	22.2	0.87	9.50	0.37
	3/4	14.1	0.56	12.0	14.1	0.56	74.0	2.91	24.6	0.97	50.8	2.00	44.0	1.73	60.0	2.36	33.0	1.30	121.5	4.78	38.2	1.50	27.4	1.08	14.3	0.56
	1	20.0	0.79	36.0	20.0	0.79	99.0	3.90	31.8	1.25	60.0	2.36	56.7	2.23	74.5	2.93	42.0	1.65	151	5.94	44.0	1.73	34.2	1.35	15.9	0.63





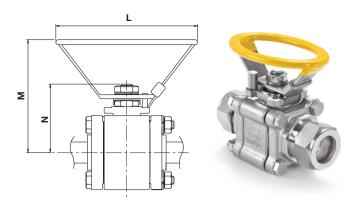
H-580 PIPE BUTTWELD STANDARD DIMENSIONS

SERIES	End Connection	Ori	fice	Cv	Bal	I ID	ŀ	4	E	3	F	=	(;	[)	0	D	II	D	,	J	(G
	inch	mm	inch		mm	inch	mm	inch	mm	inch														
H 5000	1/4	7.1	0.28	3.7	7.1	0.28	52.8	2.08	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	13.7	0.54	9.20	0.36	61.0	2.40	25.5	1.00
H-580S	3/8	7.1	0.28	3.7	7.1	0.28	52.8	2.08	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	17.1	0.67	10.7	0.42	61.0	2.40	25.5	1.00
	1/2	11	0.43	10	11.0	0.43	71.6	2.82	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	21.3	0.84	15.8	0.62	121.5	4.78	32.0	1.26
H-580	3/4	14.1	0.56	12	14.1	0.56	72.0	2.83	24.6	0.97	50.8	2.00	44.0	1.73	60.0	2.36	27.1	1.07	21.0	0.83	121.5	4.78	38.2	1.50
	1	20	0.79	36	20.0	0.79	97.0	3.82	31.8	1.25	60.0	2.36	56.7	2.23	74.5	2.93	33.4	1.32	26.6	1.05	151	5.94	44.0	1.73



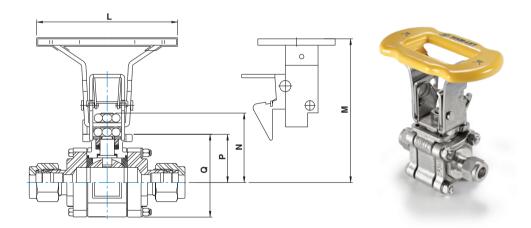
H-580 EXTENDED AND SHORT TUBE BUTTWELD STANDARD DIMENSIONS

SERIES	Er Conn	nd ection	Orif	ice	Cv	Bal	I ID	exter	\ nded	-	A ort	ı	3	ı	=	C	;)	0	D	,	J	(à	II	D
	mm	inch	mm	inch		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
	6	1/4	4.4	0.17	1	9.4	0.37	-	-	71.5	2.81	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	6.4	0.25	121.5	4.78	32.0	1.26	4.40	0.17
	10	3/8	7.7	0.3	3.8	9.4	0.37	-	-	71.5	2.81	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	9.57	0.38	121.5	4.78	32.0	1.26	7.70	0.30
H-580	12	1/2	9.4	0.37	7	9.4	0.37	140	5.5	64.6	2.54	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	12.7	0.5	121.5	4.78	32.0	1.26	9.40	0.37
	20	3/4	15.75	0.62	18	15.8	0.87	150	5.9	-	-	24.6	0.97	50.8	2.00	44.0	1.73	60.0	2.36	19.05	0.75	121.5	4.78	38.2	1.50	15.75	0.62
	25	1	20.0	0.79	38	22.35	0.88	161.2	6.35	-	-	31.8	1.25	60.0	2.36	56.7	2.23	74.5	2.93	25.4	1	151	5.94	44.0	1.73	21.4	0.84



H-500 OVAL HANDLE

End Connection	1	١	l	L	N	Л
	mm	inch	mm	inch	mm	inch
1/4", 3/8", 1/2" 6mm, 10mm, 12mm	40.5	1.6	105.0	4.13	66.0	2.60
3/4" 20mm	44.0	1.73	105.0	4.13	70.0	2.75
1" 25mm	56.7	2.23	105.0	4.13	88.7	3.49



H-500 GRIP HANDLE (OVAL)

End Connection	L	-	N	Л	1	٧	F	•	(2
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
1/4", 3/8", 1/2" 6mm, 10mm, 12mm	104	4.09	94.5	3.72	40.5	1.59	27.5	1.08	49.5	1.95
3/4" 20mm	104	4.09	98.0	3.86	44.0	1.73	30.5	1.20	56.0	2.20

H-500 - PNEUMATIC ACTUATED VALVES

FEATURES

- 90° actuation for two-way valves
- Actuators comply with industry standards for interface with ISO 5211, NAMUR and VDI/VDE 3845
- Actuated valves are available factory assembled or seperately
- Actuator and mounting kits
- Limit switches, proximity sensors, position indicators, solenoid valves and other accessories are available upon request
- Standard temperature range: -32°C to 90°C (-25.6°F to 194°F)
 Optional: high temperature, low temperature

GENERAL

Four standard actuator sizes are available upon request: Mini (designator "A1"), Small (designator "A2"), Medium (designator "A3"), and Large (designator "A4").

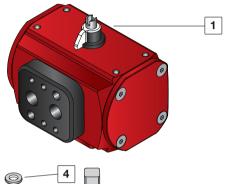
Improved operational speed enables better valve opening and closing control. ATEX certification of valves-actuators' assemblies are available upon request at the time of order.

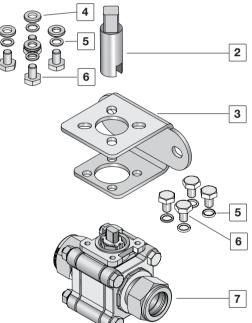
MATERIALS OF CONSTRUCTION

No.	Part	Qty	Material
1	Actuator	1	AL 356-T5
2	Coupling	1	SST 316
3	Bracket	1	SST 304
4	Washer Flat	4	SST 304
5	Washer Spring	8	SST 304
6	Screw	8	SST 304
7	H500	1	SST 316

Note: In cases where the valve will be cycled less frequently than once per day or more frequently than once per hour, please contact your UCT representative.









The selection of valve-actuator assemblies provided herein is based on:

- Valve maximum allowable working pressure
- Ambient temperature (50 to 100°F / 10 to 37°C)
- Actuator fits to valve based on operating pressure of six bar, in accordance with table A.

To order H-500 ball valve factory assembled with an actuator, the actuator designator shall be added to the valve part number/description per the below table.

Example:

H-500-SS-L-3/4-T with standard Double Acting Aluminum Actuator H-500-SS-L-3/4-T-A2

To order an actuator and mounting kit for field assembly: Double Acting Actuator ordering number: **Z-A2** Corresponding mounting kit: **Z-500-MK-3/4 -F03-F04-A2**

Lubricant-Free Valves:

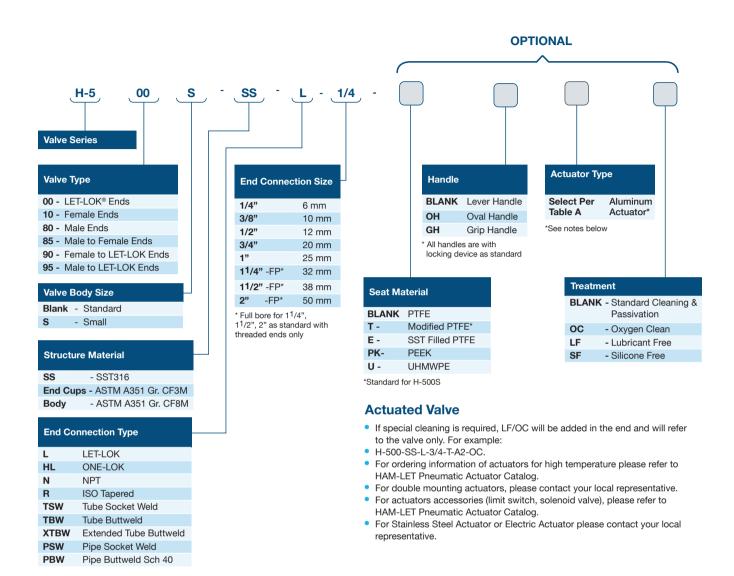
For Spring Return Actuator-select one size bigger then offered in the table below. Example: If the offered actuator in the table is A2C, select A3C For Double Acting Actuator - please contact your local representative



TABLE A: ORDERING INFORMATION FOR ACTUATED VALVES

Series	Ends Size	Seats	Minimum Actuator Operating		ator Desi tory Asse		Actuator Cod		Mounting Kit Ordering Info
			Pressure Bar (Psi)	Spring	Return	Double Acting	Spring Return	Double Acting	
				NO	NC				
H-500S	1/4", 3/8" (6 mm, 10 mm)	Modified PTFE	5 (72.5)	A10	A1C	A1	Z-A1S	Z-A1	Z-500-MK-1/4"-F03-F04-A1
		PTFE Modified PTFE	5 (72.5)	A2O	A2C	A1	Z-A2S	Z-A1	SR: Z-500-MK-1/2"-F03-F04-A2 DA: Z-500-MK-1/2"-F03-F04-A1
	1/4"-1/2" (6 mm-12 mm)	SST PTFE	5 (72.5)	A20	A2C	A2	Z-A2S	Z-A2	Z-500-MK-1/2"-F03-F04-A2
	(0 11111 12 11111)	PEEK	5 (72.5)	A4O	A4C	A3	Z-A4S	Z-A3	SR: Z-500-MK-1/2"-F05-F07-A4 DA: Z-500-MK-1/2"-F04-F05-A3
11.500		PTFE Modified PTFE	5 (72.5)	A2O	A2C	A2	Z-A2S	Z-A2	Z-500-MK-3/4"-F03-F04-A2
H-500	3/4" (20 mm)	SST PTFE	5 (72.5)	A3O	A3C	A2	Z-A3S	Z-A2	SR: Z-500-MK-3/4"-F04-F05-A3 DA: Z-500-MK-3/4"-F03-F04-A2
		PEEK	5 (72.5)	A40	A4C	A4	Z-A4S	Z-A4	Z-500-MK-3/4"-F05-F07-A4
	1" (25 mm)	PTFE Modified PTFE SST PTFE	5 (72.5)	A4O	A4C	А3	Z-A4S	Z-A3	SR: Z-500-MK-1"-F05-F07-A4 DA: Z-500-MK-1"-F04-F05-A3
	(20)	PEEK	5 (72.5)	A5O	A5C	A4	Z-A5S	Z-A4	SR: Z-500-MK-1"-F05 F07-A5 DA: Z-500-MK-1"-F05-F07-A4

 $\mbox{\bf Note:}$ For dimensions of actuators assembled on the H-500 series, please refer to the HPA section.

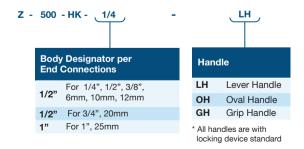


ORDERING INFORMATION FOR SEAL KITS

The kit includes gaskets, seats, stem packing and stem seal.



ORDERING INFORMATION FOR HANDLE KITS



Warning! The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.

Three-Piece Ball Valves Serie | June 2023

