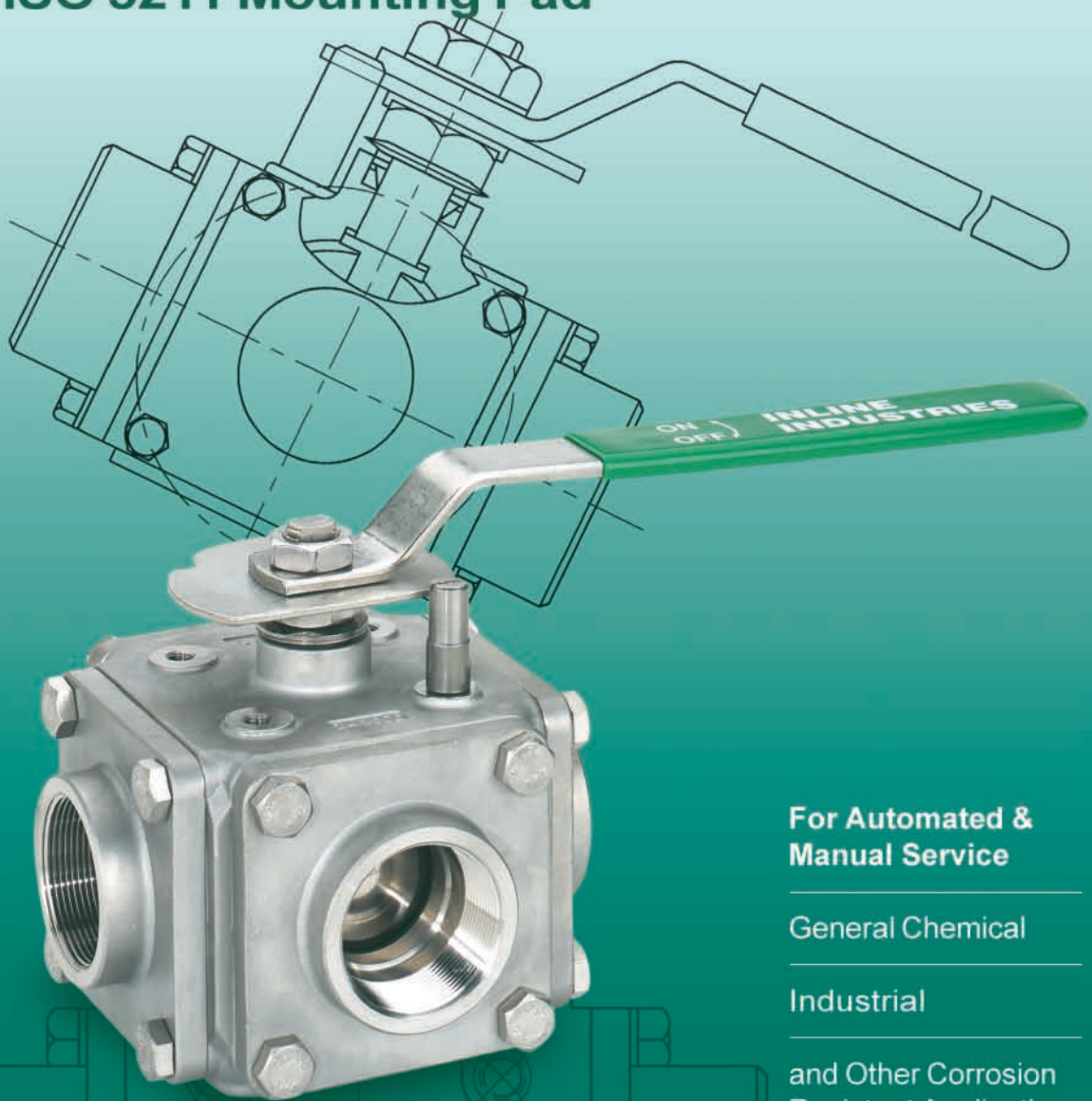


# 505F Multi-Port Ball Valve

Full Port  
ISO 5211 Mounting Pad



For Automated &  
Manual Service

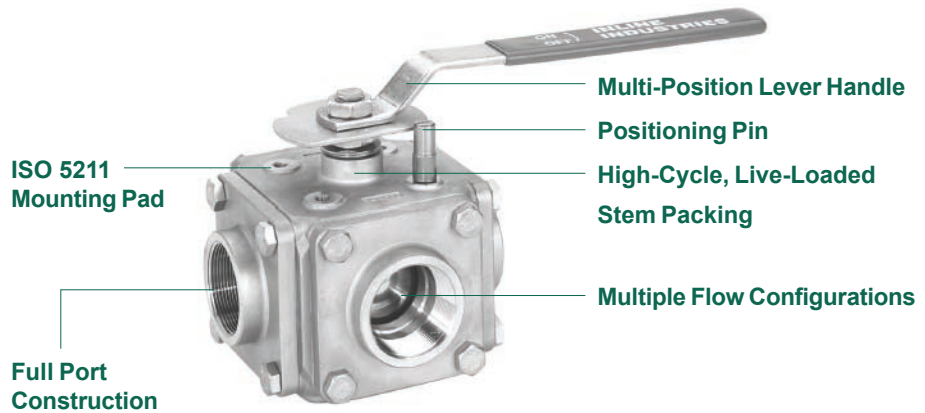
General Chemical

Industrial

and Other Corrosion  
Resistant Applications

# The 505F Series 3/4/5-Way Ball Valve

The 505F is a true multi-way ball valve with balanced four-seat construction. This full port valve is available in a variety of flow plans which can replace multiple two-way valves in a process system. A standard ISO 5211 pattern mounting pad allows for easy assembly of pneumatic and electric actuators.



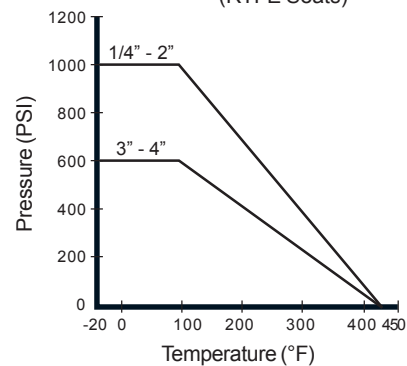
## Standard Features and Benefits

- **Balanced 4-Seat Construction**  
Unlike two-seated diverter valves, the 505F series has four seats (five seats in bottom entry valves) for positive shut-off in the closed position. This true multiport function can reduce the number of valves required in a process system and gives engineers greater design flexibility
- **Trunnion Mounted Ball (1 1/2" - 4")**  
Lateral forces in a 3-way valve can cause unwanted seat distortion. Stem/ball isolation prevents side-loading and wear of downstream seats, improving performance and service life
- **ISO 5211 Mounting Pad**
- **High-Cycle, Live-Loaded Stem Packing**  
Dynamic loading on stem packing ensures a tight seal through varying pressure and temperature conditions, extending service life and reducing maintenance costs
- **O-Ring Stem Bearing (3" and 4")**  
Maintains stem alignment  
Reduces packing side-loading and wear  
Enhances stem seal
- **Blow-Out-Proof Stem**  
Stem is bottom loaded to prevent removal when valve is in service
- **Full Port Design**  
Full port construction improves flow characteristics for greater process efficiencies
- **Multi-Position Lever Handle**  
The lever handle can be positioned in four different orientations for greater piping flexibility

## Options

- 4- or 5-way construction with multiple flow patterns
- Multiple end connections available

505F Pressure / Temperature Chart  
(RTFE Seats)



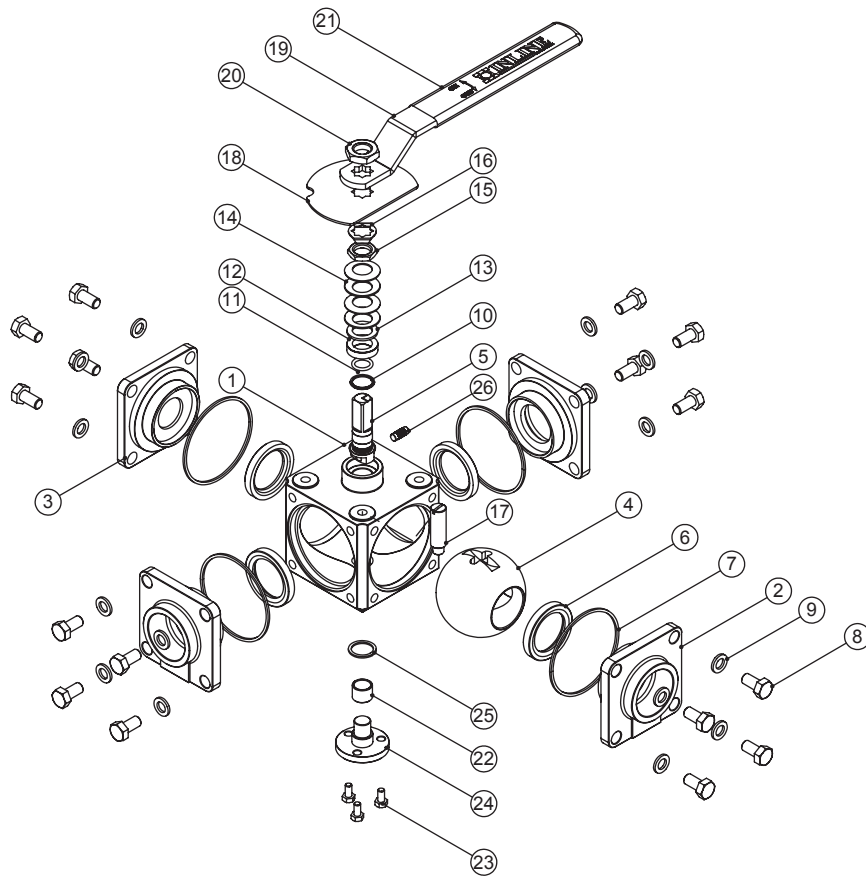
## Operating Conditions

- Temperature range:  
-20°F ~ 420°F
- Maximum pressure:  
1000 PSI WOG (1/4" - 2"),  
600 PSI WOG (3" - 4")

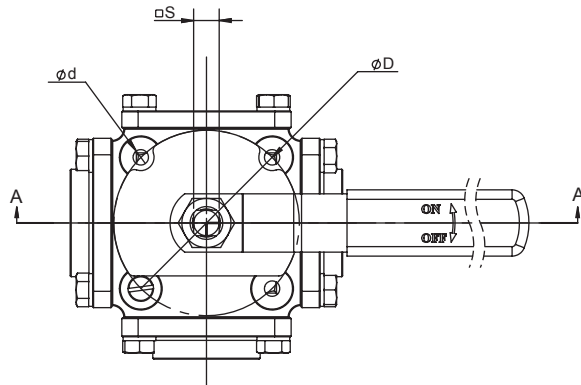
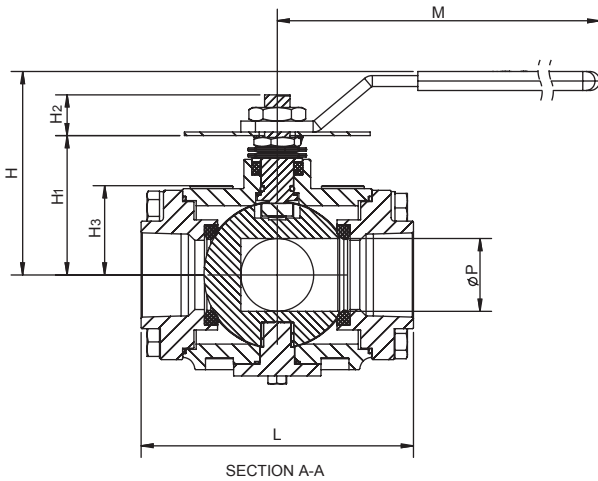
## Specifications

- All valves shell and seat tested to ANSI/ASME B16.34 and API 598
- All materials comply with applicable ASTM material specifications
- End connections: NPT to ANSI B1.20.1, BW to B16.25, SW to B16.11

1/4" ~ 2"

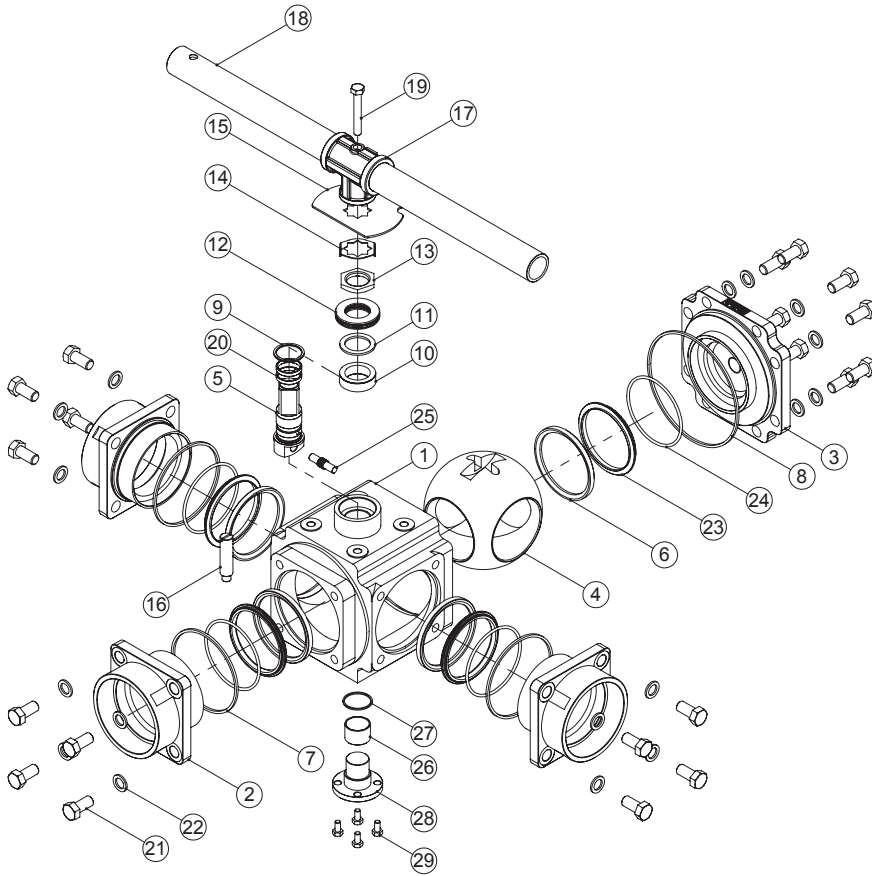


Valve Components			
#	Part Name	Material	Qty.
1	Body	A351 Gr. CF8M	1
2	End Cap	A351 Gr. CF8M	3
3	Blind End Cap	A351 Gr. CF8M	1
4	Ball	316SS	1
5	Stem	316SS	1
6	Seat	RTFE (15% C.F.)	4
7	Body Seal	PTFE	4
8	Body Bolt	304SS	16
9	Body Bolt Washer	304SS	16
10	Thrust Washer	PEEK	1
11	Stem O-Ring	Viton 90	1
12	Stem Packing Set	TFM	1
13	Packing Gland	304SS	1
14	Belleville Washer	301SS	4
15	Gland Nut	304SS	1
16	Gland Nut Lock Washer	304SS	1
17	Stop Pin	304SS	1
18	Stop Plate	304SS	1
19	Handle	304SS	1
20	Handle Nut	304SS	1
21	Handle Cover	Vinyl	1
22	Trunnion Bearing	PEEK	1
23	Trunnion Bolt	304SS	3
24	Trunnion	316SS	1
25	Trunnion Gasket	PTFE	1
26	Stem Set Pin	316SS	1

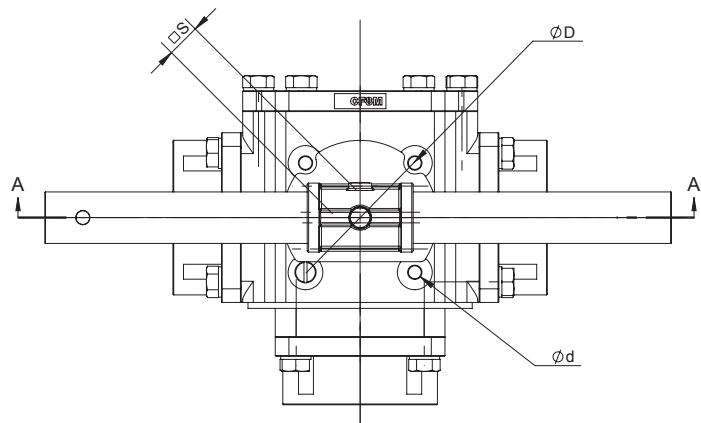
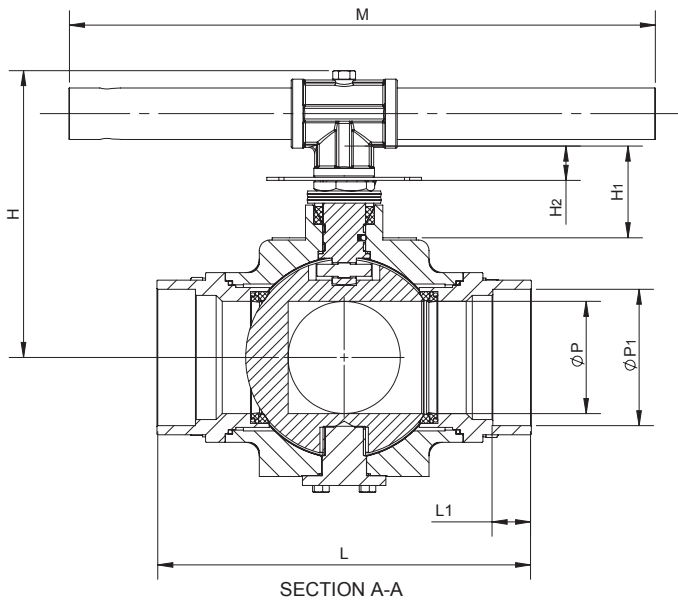


Dimensions (Inches)												
Size	L	P	M	H	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	D	d	S	ISO 5211 Pattern	Weight (lbs)
1/4-3/8	3.40	0.43	5.86	2.33	1.35	0.48	0.95	1.97	0.33	0.35	F05	3.3
1/2	4.06	0.59	5.86	2.48	1.51	0.55	1.10	1.97	0.33	0.35	F05	5.1
3/4	4.24	0.79	6.80	2.92	1.78	0.61	1.20	1.97	0.33	0.43	F05	6.2
1	4.76	0.98	7.99	3.48	2.19	0.69	1.40	2.76	0.51	0.43	F07	8.7
1 1/4	5.20	1.26	7.99	3.95	2.66	0.88	1.61	2.76	0.51	0.55	F07	11.2
1 1/2	5.89	1.57	10.52	4.40	3.01	0.88	1.93	4.02	0.51	0.55	F10	19.4
2	7.30	1.97	12.69	5.13	3.55	0.93	2.40	4.02	0.51	0.67	F10	24.2

3" ~ 4"



Valve Components			
#	Part Name	Material	Qty.
1	Body	A351 Gr. CF8M	1
2	End Cap	A351 Gr. CF8M	3
3	Blind End Cap	A351 Gr. CF8M	1
4	Ball	316SS	1
5	Stem	316SS	1
6	Seat	RTFE (15% C.F.)	4
7	Body Seal (small)	PTFE	3
8	Body Seal (large)	PTFE	1
9	Thrust Washer	PEEK	1
10	Stem Packing Set	PTFE	1
11	Packing Gland	304SS	1
12	Belleville Washer	301SS	4
13	Gland Nut	304SS	1
14	Gland Nut Lock Washer	304SS	1
15	Stop Plate	304SS	1
16	Stop Pin	304SS	1
17	Handle Drive Coupling	304SS	1
18	Pipe Handle	304SS	1
19	Handle Bolt	304SS	1
20	Stem Bearing	PEEK	2
21	Body Bolt	304SS	20
22	Body Bolt Washer	304SS	20
23	Seat Housing	316SS	4
24	Seat Housing O-Ring	Viton 90	4
25	Stem Set Pin	316SS	1
26	Trunnion Bearing	PEEK	1
27	Trunnion Seal	PTFE	1
28	Trunnion	316SS	1
29	Trunnion Bolt	304SS	4



**Dimensions (Inches)**

Size	L	L1	M	P	P1	H	H1	H2	D	d	S	ISO 5211 Pattern	Weight (lbs)
3	9.72	1.00	22.00	2.91	3.54	7.45	2.38	0.89	4.02	0.37	0.87	F10	51.9
4	11.68	1.12	32.00	3.78	4.55	8.20	2.34	0.84	4.02	0.37	0.87	F10	93.5

# Flow Pattern Options

3 Way - Side Entry, T-Port (5T)			3 Way - Side Entry, L-Port (5L)														
No.	Turn	Positions	Diagram		No.	Turn	Positions	Diagram									
01	90°	A & B			<table border="1"> <tr> <td>01</td> <td>90°</td> <td>A &amp; B</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	01	90°	A & B									
01	90°	A & B															
02	90°	B & C															
03	90°	C & D															
04	90°	D & A															
12	180°	A & B & C			<table border="1"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>												
23	180°	B & C & D															
34	180°	C & D & A															
41	180°	D & A & B															
00	360°	All															

3 Way - Bottom Entry, 180° L-Port (3A)			3 Way - Bottom Entry, 90° Angle Port (4A)											
No.	Turn	Positions	Diagram		No.	Turn	Positions	Diagram						
01	90°	A & B			<table border="1"> <tr> <td>01</td> <td>90°</td> <td>A &amp; B</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	01	90°	A & B						
01	90°	A & B												
02	90°	B & C												
12	180°	A & B & C												
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4 Way - Bottom Entry, L-Port (6A)			4 Way - Side Entry, Double L-Port (7D)														
No.	Turn	Positions	Diagram		No.	Turn	Positions	Diagram									
01	90°	A & B			<table border="1"> <tr> <td>01</td> <td>90°</td> <td>A &amp; B</td> </tr> <tr> <td>00</td> <td>360°</td> <td>All</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	01	90°	A & B	00	360°	All						
01	90°	A & B															
00	360°	All															
02	90°	B & C															
12	180°	A & B & C															
00	360°	All															
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4 Way - Bottom Entry, Double L-Port (6Y)			5 Way - Bottom Entry, Angle Port (8A)														
No.	Turn	Positions	Diagram		No.	Turn	Positions	Diagram									
01	90°	A & B			<table border="1"> <tr> <td>01</td> <td>90°</td> <td>A &amp; B</td> </tr> <tr> <td>00</td> <td>360°</td> <td>All</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	01	90°	A & B	00	360°	All						
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3 Way - Bottom Entry, 180° T-Port (3B)			3 Way - Bottom Entry, 180° Double L-Port (3Y)														
No.	Turn	Positions	Diagram		No.	Turn	Positions	Diagram									
01	90°	A & B			<table border="1"> <tr> <td>01</td> <td>90°</td> <td>A &amp; B</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	01	90°	A & B									
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Direct Mount Products



Automation Systems

## 505F Ordering Information

Example: 2" Multi-Port Ball Valve with ISO 5211 Pattern Mounting Pad, Lever Handle and Positioning Pin, Full Port, 316SS Body and Trim, RTFE (15% C.F.) Seats and PTFE Seals, NPT Ends, 3-Way Side Entry, T-Port, Flow Pattern 01\*

Valve Series	Valve Size	Body Material	End Material	Ball Material	Stem Material	Seat	Seal	End Connection	Port Config.	Ball Config.	Flow Pattern*
505F - Full Port	2 1/4" 3 3/8" 5 1/2" 7 3/4" A 1" B 1 1/4" C 1 1/2" D 2" F 3" G† 4"	6 - A351 Gr. CF8M (316)	6 - A351 Gr. CF8M (316) 3 - A351 Gr. CF3M (316L)	6 - A351 Gr. CF8M (316)	6 - A351 Gr. CF8M (316)	C - RTFE (15% C.F.) R - RTFE (15% G.F.) M - TFM T - PTFE	T - PTFE	T - NPT S - Socket Weld 1 - Butt Weld Sch. 10** 4 - Butt Weld Sch. 40** G - Grooved	3 - 3 Way 180° Bottom Entry 4 - 3 Way 90° Bottom Entry 5 - 3 Way Side Entry 6 - 4 Way Bottom Entry 7 - 4 Way Side Entry 8 - 5 Way Bottom Entry	A - Bottom Entry L-Port Y - Bottom Entry Double L-Port L - Side Entry L-Port D - Side Entry Double L-Port T - Side Entry T-Port B - Bottom Entry T-Port	99 - Adjust in Field 00 01 02 03 04 12 23 34 41

† Not available in 4-way Double L-port  
Due to continuous product development, information may change without notice

\* See Flow Pattern Options  
\*\* 316L - Standard Material



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