



Taylor Valve
Technology

R1 SERIES CONTROL CHOKE

Unique.

Precise.

Quality.

Reliable.



WORLDWIDE

SINCE 1958



R1 SERIES CONTROL VALVES

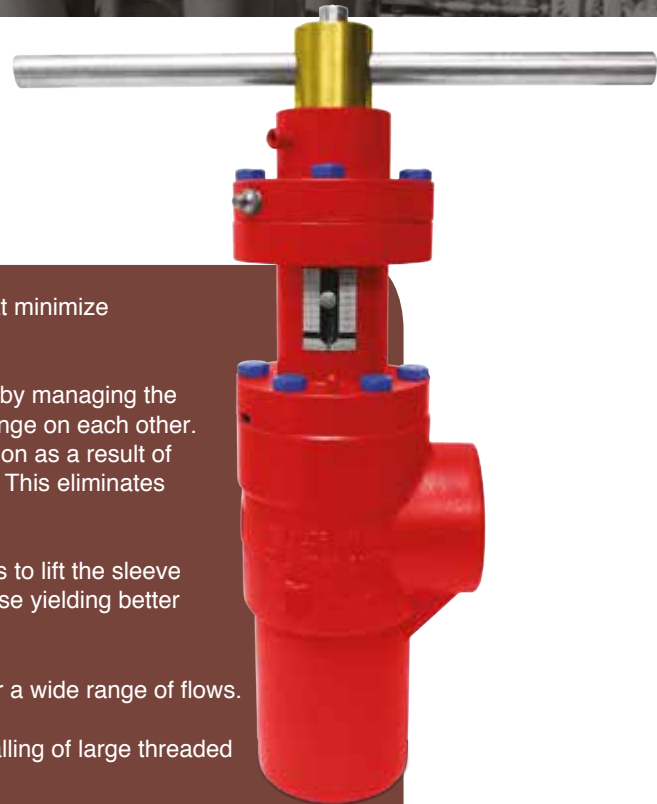
FEATURES & *Benefits*

The R1 Series Control Valve features several unique design characteristics that minimize wear and maximize service life.

The nozzle and external sleeve trim is designed to contain turbulence and wear by managing the flow into the nozzle and centralizing it into bore causing the flow streams to impinge on each other. The valve body and outlet are protected from wear because the energy conversion as a result of the pressure drop is concentrated in the trim cavity before flow enters the outlet. This eliminates the typical wear problems in the valve outlet.

The sleeve design greatly reduces the breakaway and closing thrust requirements to lift the sleeve on and off seat as well as during stem travel making the control stable and precise yielding better accuracy and repeatability.

- **Accurate Control** - Multi-Orifice Nozzle design provides precise control over a wide range of flows.
- **Bolted Bonnet** - A bolted bonnet prevents corrosion, cross-threading and galling of large threaded connections. The design allows for simple assembly and disassembly.
- **Extended Mean Time Between Service** - Robust design, application of hardened materials, and efficient flow geometry results in maximum production potential and minimum service requirements.
- **Easy Maintenance** - All Control Choke Valves are designed with special actuator mounting systems so the choke can be maintained without disassembly of the actuator and components or instrument connections.
- **High Turndown Ratio** - Clean flow geometry, high capacity and accurate control means the valve is suitable for both start-up and end-of field-life-process scenarios. In short, our control choke valves offer a one-valve solution for the full process life.
- **Optional Features** - Control Valves can have trims and actuators custom designed for specific requirements. Such as special noise reduction trims, reduced port and maximum orifice trims for very high pressure or minimum pressure loss for a declining field.

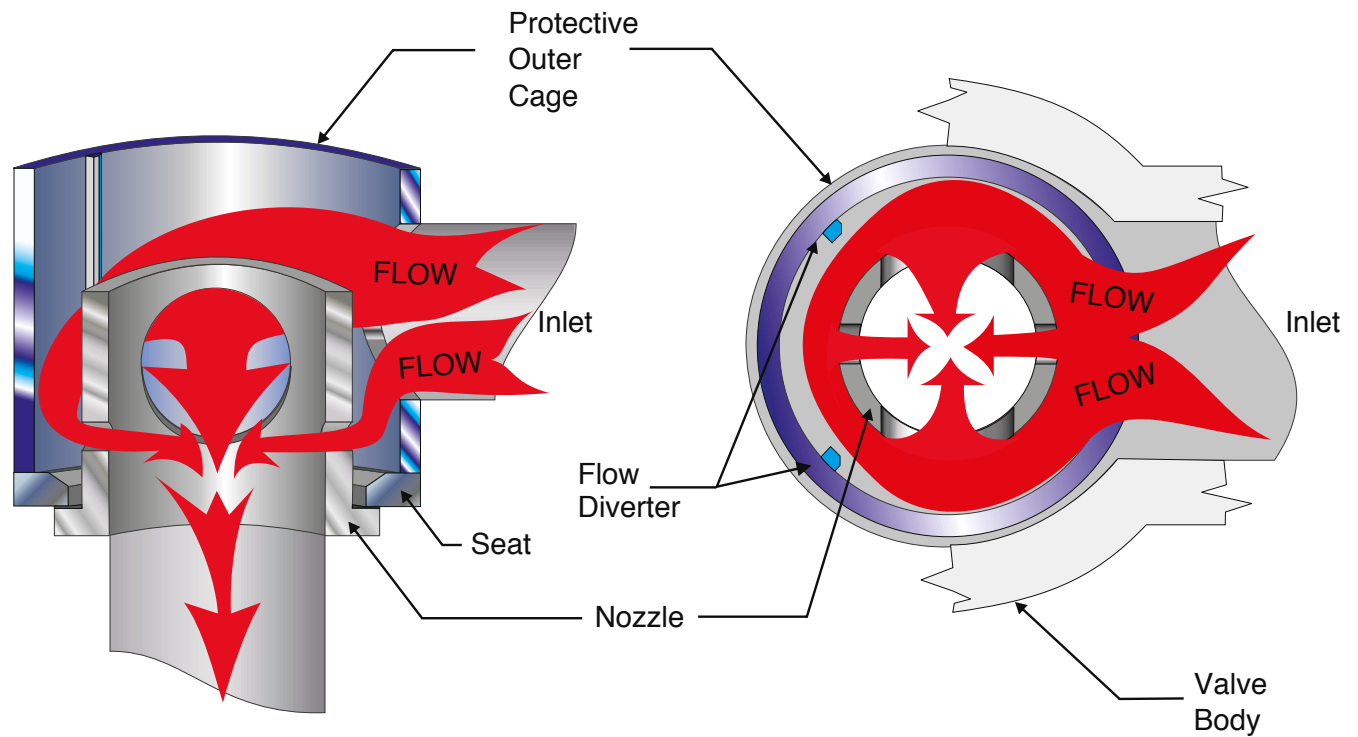


Applications:

- Well Site Automated and Manual Application
- Water Injection Control Valve
- CO2 Injection Control Valve
- High Pressure Drop Applications
- Gas Lift Injection Control



Dynamic Energy Conversion



Side view of the fluid flow through the valve

Flow converging in the center of the nozzle

When the valve is open and flow enters through the inlet of the valve into the protective cage, it is circulated around the annulus created by the cage, nozzle and sleeve assembly. The symmetry of the ports in the nozzle cause the high velocity fluid streams created by the pressure drop to collide into each other in the center of the trim. The impact of the streams converts the energy and protects the downstream components from damage.

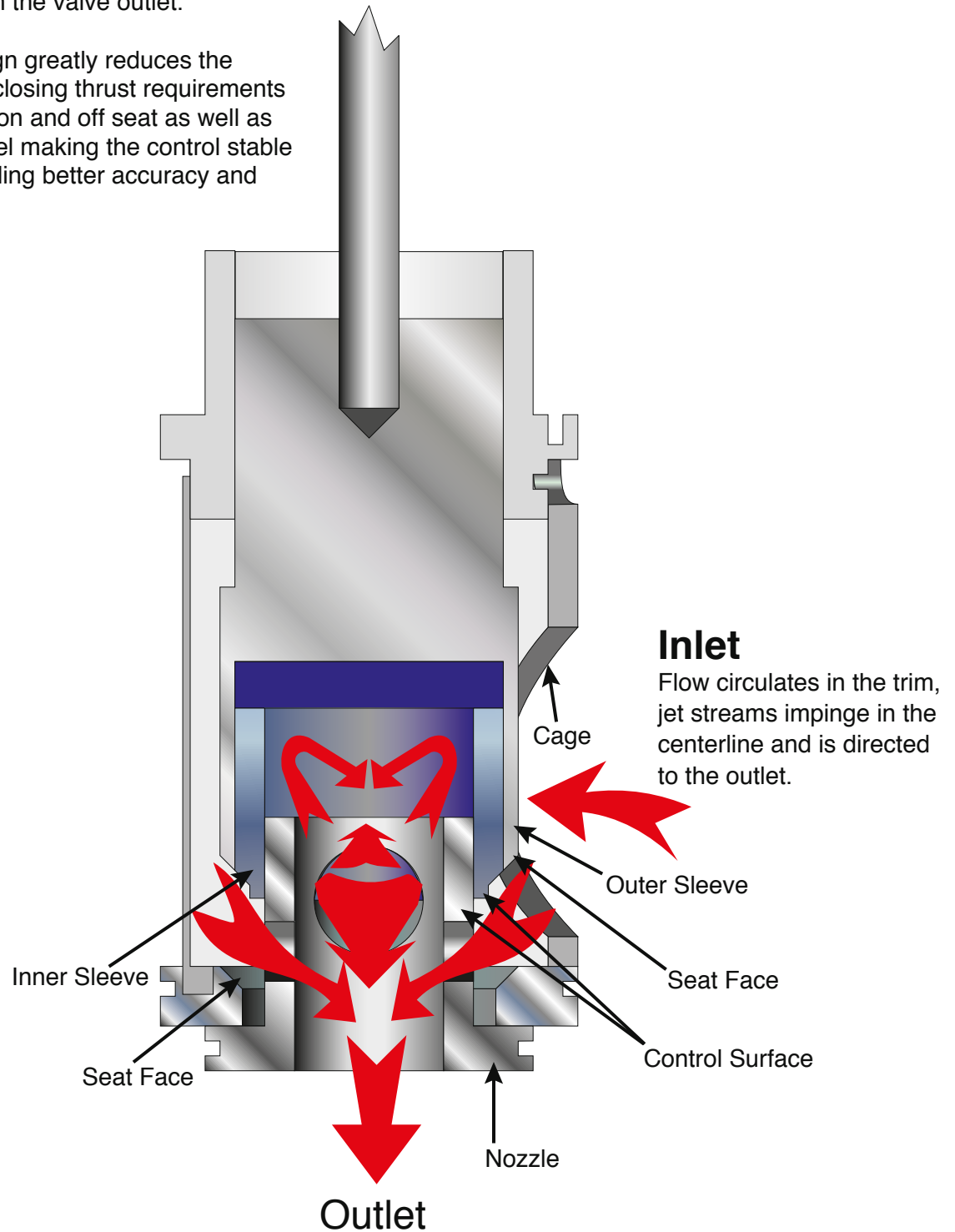
Multi-Orifice Nozzle Technology

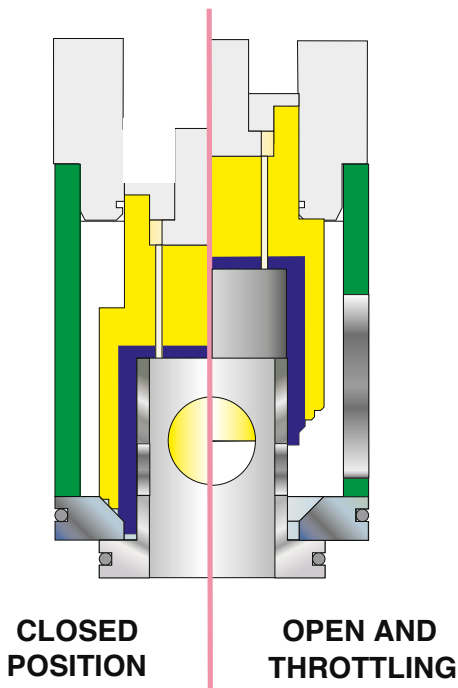
Control Element

The R1 Series valve features several unique design characteristics that minimize wear and maximize service life.

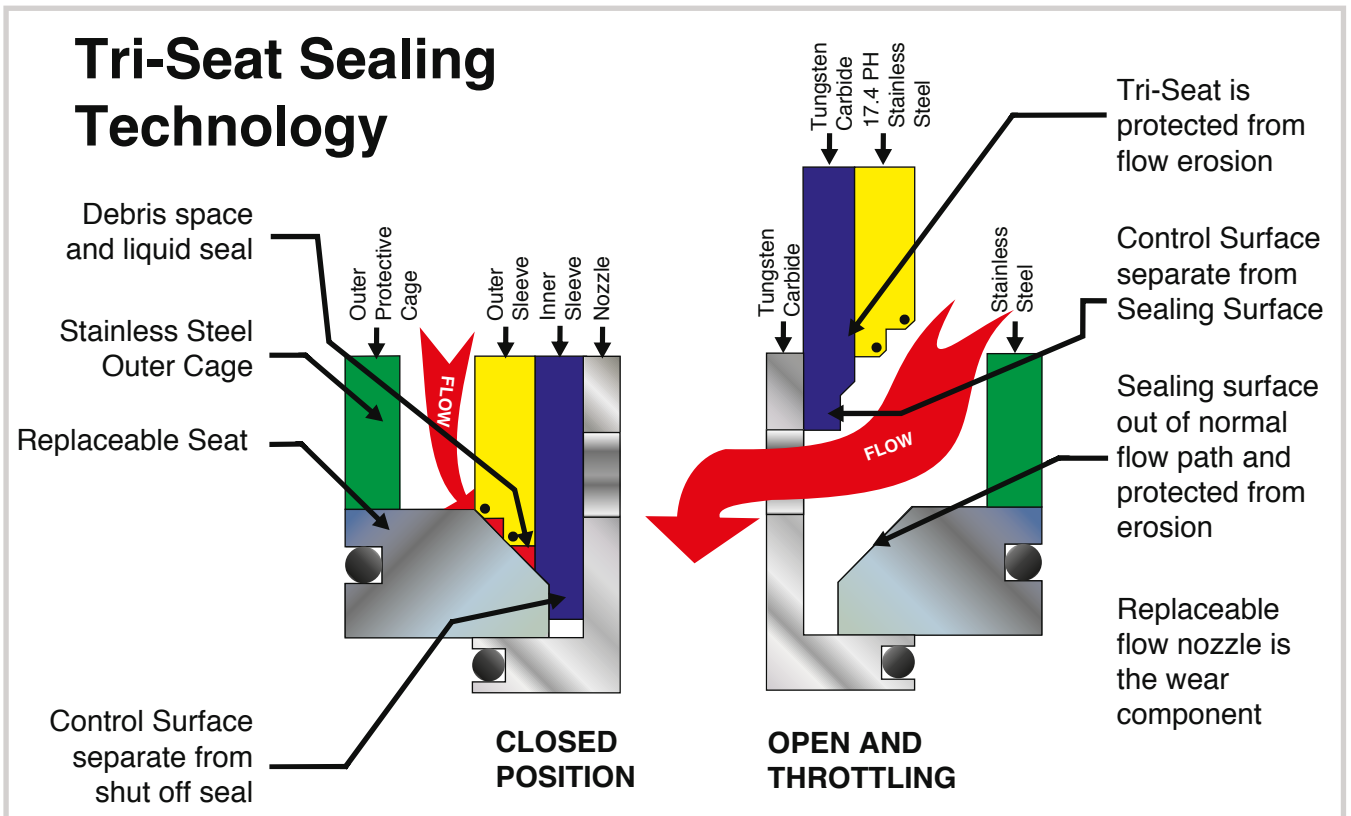
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The Trim configuration has been field-tested and proven to deliver superior wear resistance and performance. The trim controls high velocity fluid during pressure reduction by directing the flow to the center of the flow nozzle. The Erosive Energy is contained within the expendable trim components away from the valve wall which is additionally protected by a replaceable sleeve, reducing the potential for release of fluids to the environment. The seat and Tri-seating surfaces on the sleeve are separate from the controlling surfaces and out of the flow path to maintain an ANSI class V shut off.



R1 Cutaway View

R1 Control Choke

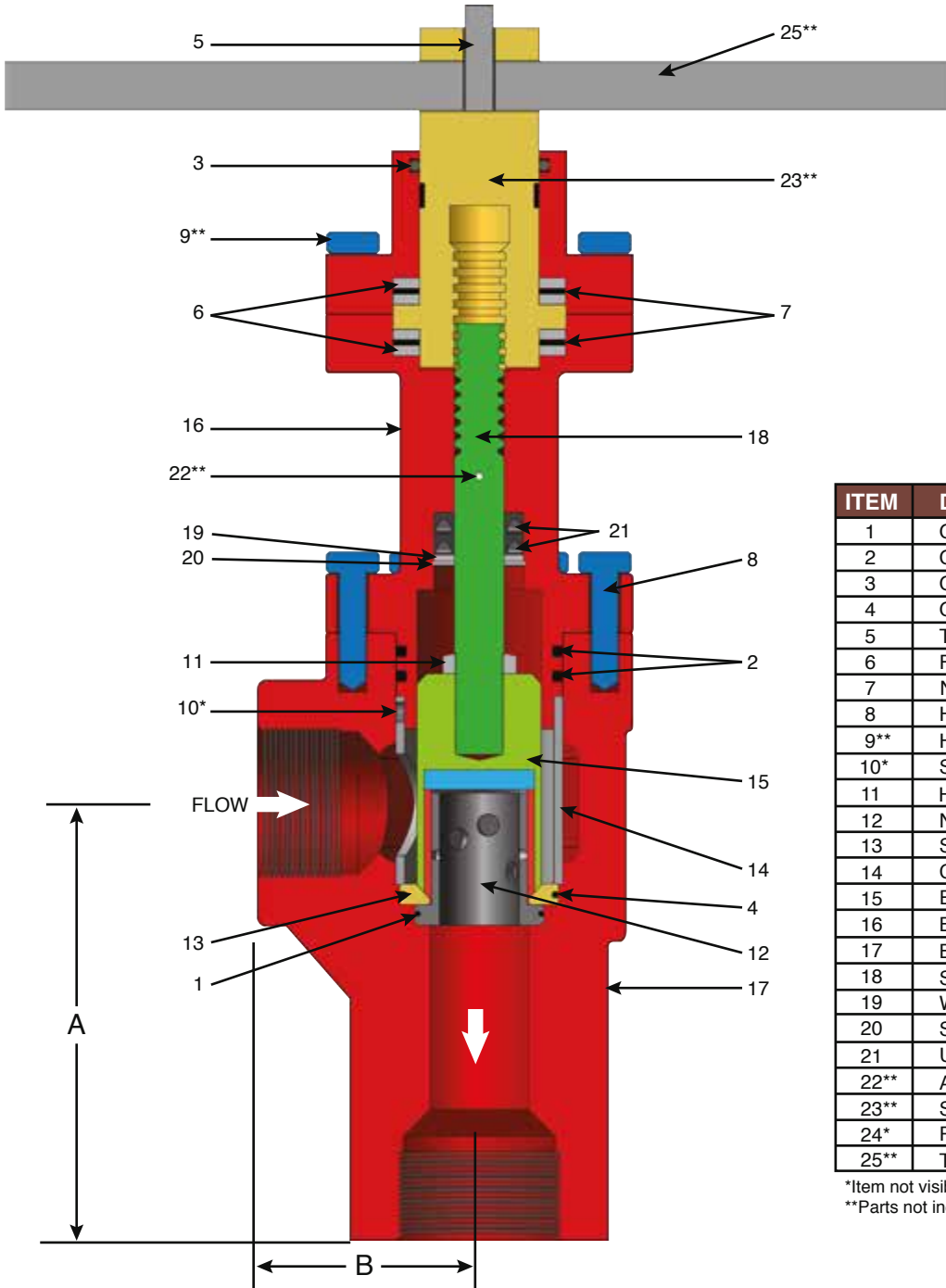
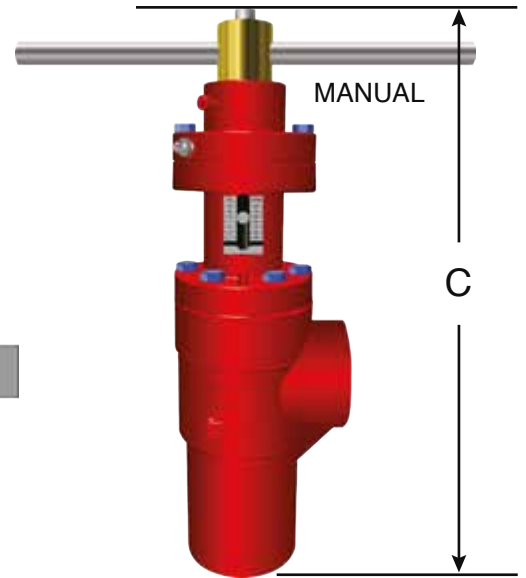
Cv = 12 (Standard), 6, 3

Bean Size = 47/64ths

Stroke Length = 1"

Stem Diameter = 0.625"

MAWP = 5,000 PSIG



ITEM	DESCRIPTION	QTY
1	O-RING 2-029	1
2	O-RING 2-225	2
3	O-RING 2-222	1
4	O-RING 2-032	1
5	THUMB SCREW	1
6	FLAT WASHER	4
7	NEEDLE ROLLER BEARING	2
8	HEX BOLT	6
9**	HEX BOLT	4
10*	SET SCREW	1
11	HEX NUT (Lock Nut)	1
12	NOZZLE	1
13	SEAT	1
14	CAGE	1
15	EXTERNAL SLEEVE ASSEMBLY	1
16	BONNET	1
17	BODY/FLANGE WELDMENT	1
18	STEM	1
19	WASHER	1
20	SNAP RING	1
21	U-CUP SEALS	2
22**	ANTI-ROTATIONAL DEVICE	1
23**	STEM ADAPTER/DRIVE PLATE	1
24*	PIPE PLUG	1
25**	TURN HANDLE	1

*Item not visible in sectioned view

**Parts not included on actuator

R1 Dimensions and Weights

1" BODY STANDARD DIMENSIONS AND WEIGHTS						2" BODY STANDARD DIMENSIONS AND WEIGHTS					
CONNECTIONS		DIM. END-to-END IN. (MM.) +/- .10		WEIGHT		CONNECTIONS		DIM. END-to-END IN. (MM.) +/- .10		WEIGHT	
INLET	OUTLET	A	B	LB.	KG.	INLET	OUTLET	A	B	LB.	KG.
1" FNPT	1" FNPT	5.53 (140)	2.80 (71)	23	10.44	2" FNPT	2" FNPT	5.58 (142)	2.74 (70)	22	9.99
1" FNPT	1" FNPT	5.58 (142)	2.74 (70)	23	10.44	2" BUTT WELD	2" BUTT WELD	5.58 (142)	2.74 (70)	22	9.99
1" BUTT WELD	1" BUTT WELD	5.58 (142)	2.74 (70)	22	9.99	2" 150 RFJ	2" 150 RFJ	8.17 (208)	5.33 (135)	33	14.98
1" 150 RFJ	1" 150 RFJ	7.86 (200)	5.02 (128)	28	12.71	2" 150 RTJ	2" 150 RTJ	8.36 (212)	5.52 (140)	33	14.98
1" 150 RTJ	1" 150 RTJ	8.05 (204)	5.21 (132)	28	12.71	2" 300 RFF	2" 300 RFF	8.42 (214)	5.58 (142)	39	17.71
1" 300 RFF	1" 300 RFF	8.11 (206)	5.27 (134)	30	13.62	2" 300 RTJ	2" 300 RTJ	8.67 (220)	5.83 (148)	39	17.71
1" 300 RTJ	1" 300 RTJ	8.30 (211)	5.46 (139)	30	13.62	2" 600 RFF	2" 600 RFF	8.80 (224)	5.96 (151)	45	20.43
1" 600 RFF	1" 600 RFF	8.36 (212)	5.52 (140)	30	13.62	2" 600 RTJ	2" 600 RTJ	8.86 (225)	6.02 (153)	45	20.43
1" 600 RTJ	1" 600 RTJ	8.36 (212)	5.52 (140)	30	13.62	2" 900/1500 RFF	2" 900/1500 RFF	9.92 (252)	7.08 (180)	72	32.69
1" 900/1500 RFF	1" 900/1500 RFF	8.80 (224)	5.96 (151)	40	18.16	2" 900/1500 RTJ	2" 900/1500 RTJ	9.98 (253)	7.14 (181)	72	32.69
1" 900/1500 RTJ	1" 900/1500 RTJ	8.80 (224)	5.96 (151)	40	18.16	2" 2500 RFF	2" 2500 RFF	10.92 (277)	8.08 (205)	106	48.12
1" 2500 RFF	1" 2500 RFF	9.42 (239)	6.58 (167)	46	20.88	2" 2500 RTJ	2" 2500 RTJ	10.98 (279)	8.14 (207)	106	48.12
1" 2500 RTJ	1" 2500 RTJ	9.42 (239)	6.58 (167)	46	20.88	2-1/16" 3000 API	2-1/16" 3000 API	9.98 (253)	7.14 (181)	74	33.60
						2-1/16" 5000 API	2-1/16" 5000 API	9.98 (253)	7.14 (181)	76	34.50
						2-9/16" 3000 API	2-9/16" 3000 API	10.11 (257)	7.27 (185)	94	42.68
						2-9/16" 5000 API	2-9/16" 5000 API	10.11 (257)	7.27 (185)	96	43.58

