

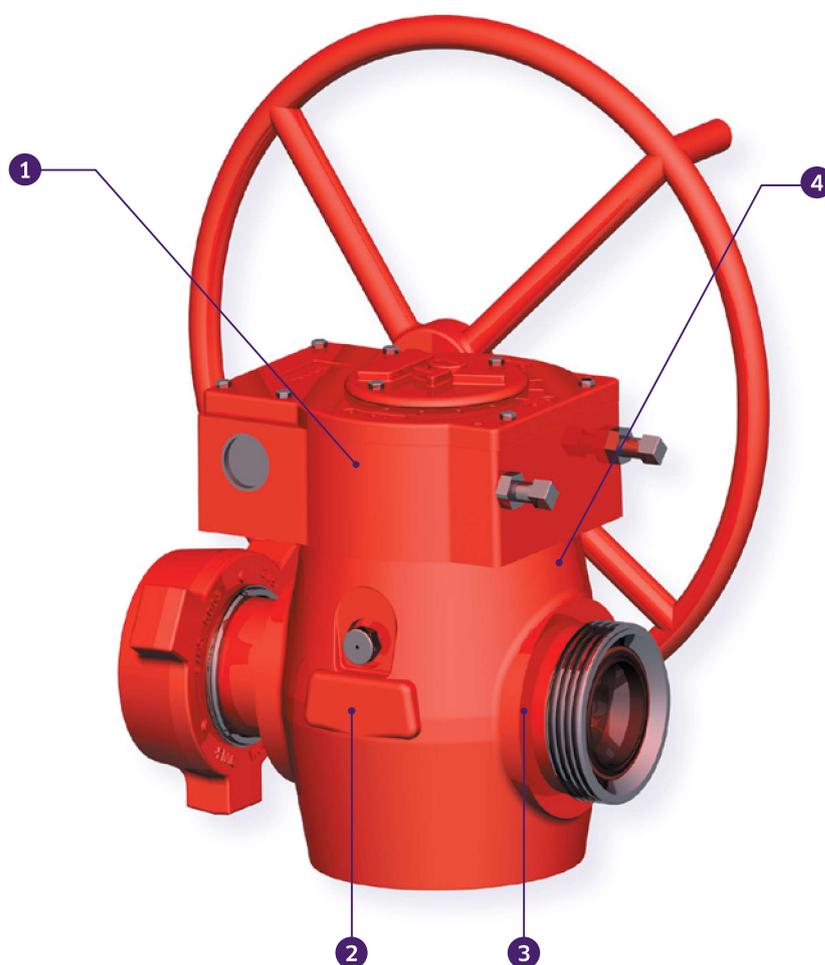
Weco® plug valves

Weco® ULT and DR plug valves are premium, quarter-turn valves designed for a wide range of standard and sour gas drilling, production, and well-servicing applications. These rugged valves are offered in single and dual-body designs in pressures up to 20,000 psi. They range in size from 1 to 4-inches and come with threaded, Weco® wing union, flanged, and clamp hub ends. Consult factory for configurations. Like all pressure containing products, Weco® plug valves require special handling. **(See warnings and cautions, pg. 88).**

Benefits

The benefits of TechnipFMC's ULT plug valves are a direct result of its unique design features. Combined, these features have redefined the standards for plug valve operating principles and performance.

- 1. Choice of operators, actuators**
Gear operators, pneumatic actuators and hydraulic actuators are available.
- 2. Ultimate sealability, no adjustments required**
Floating plug improves sealability and reduces plug wear.
- 3. Low torque operation at all pressures**
Cylindrical plug fits between seal and side segments, reducing plug drag on the valve body.
- 4. Body erosion virtually eliminated**
Fluid is forced between the plug/seal interface, limiting wear to replaceable parts.



Ultimate sealability

The key to the ULT plug valve's unprecedented seal integrity is its proprietary floating plug and dual-seal design. When the valve is closed, the dual segment seal provides a redundant seal on the downstream side of the valve. In 3-inch and larger sizes, the ULT plug valve also employs a two-piece plug and stem design. When these valves are closed, line fluid pressure in the body is equalized around the plug resulting in ultimate sealing and low operating torque.

Ultimate valve body life

In addition to improved bidirectional seal performance, the ULT plug valve dramatically extends service life. When a traditional plug valve is closed, high-pressure fluids are forced between the upstream body and seal segment interface. This flow path can erode the valve body, potentially ruining the valve. When a ULT plug valve is closed, the only available flow path is between the seal segment and plug interface. This flow path eliminates body erosion and limits any potential wear to replaceable components..

Ultimate seal life

In addition to improved valve body life, two other frequent operating problems associated with high-pressure plug valves – both of which cause premature damage to seals and increased valve operating torque – are solved by the ULT plug valve. Traditional plug valve designs can sometimes seal on the upstream side of the valve, resulting in extrusion damage to the upstream segment seal. Traditional plug valves can also trap body pressure after line pressure is removed from the valve, resulting in extrusion damage to both upstream and downstream segment seals. The dual-seal design of the ULT plug valve, by forcing flow between the plug and segment interface, eliminates both of these problems.

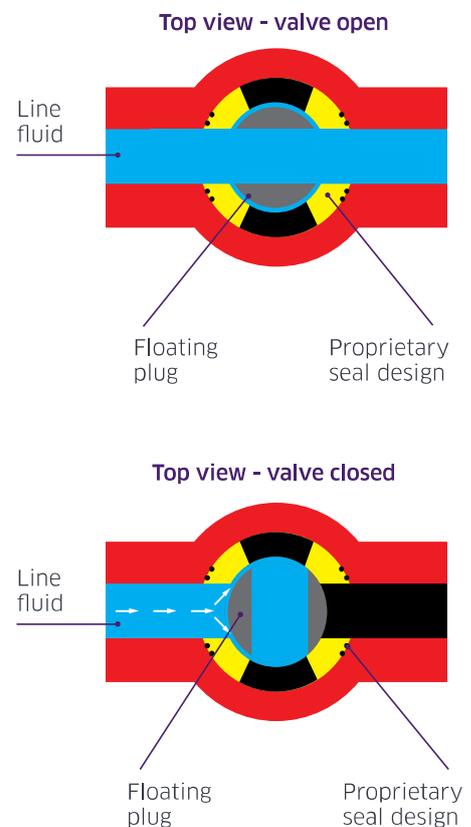
Ultimate life cycle cost savings

Superior sealability, increased life of valve body and elimination of premature seal damage result in significant savings in life cycle costs of the ULT plug valve over traditional plug valves. Qualification tests have proven that the ULT plug valve extends service life 3 to 5 times over other plug valves while reducing maintenance costs. On 1 inch size, ULT parts kits may be used in existing DR plug valve bodies to extend the life of these valves.

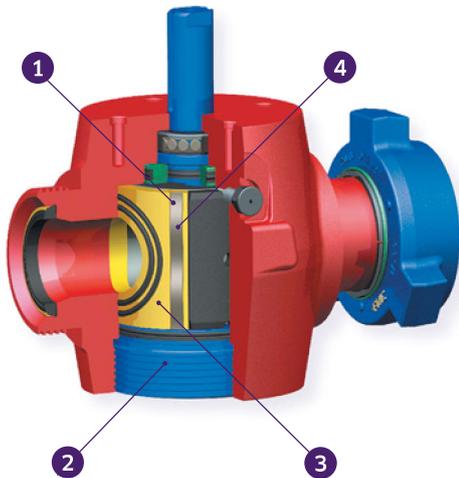


See specifications tables (pgs. 10-11) for sizes, dimensions, weights, materials, and part numbers.

Operating principal:



Weco® plug valves



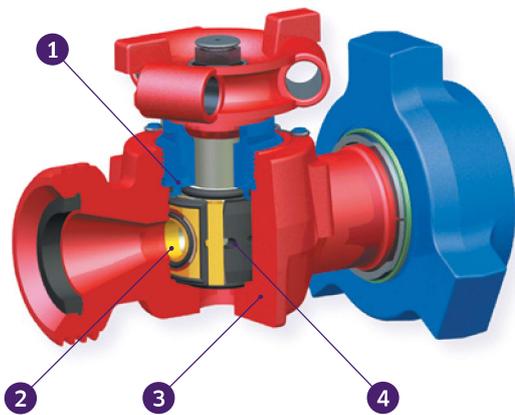
ULT plug valves (3-inch and larger)

Up to 20,000 psi cold working pressure

Recommended service

Slick water, sand, proppant/gel, energized fluids, inhibited acids and cement

- 1. Two-piece floating plug/stem**
Proprietary floating plug and stem uniformly distribute load against the downstream seat to improve sealability and reduce plug wear..
- 2. Fast, simple field repair**
Bottom entry design provides access to all valve internals without having to remove the operator or actuator.
- 3. Eliminates body washout, extends body life**
Dual seals direct flow between the seal segment and plug to provide long, trouble-free service life.
- 4. Handles sand, proppant, and cement**
Linear wave springs prevent small particles from entering metal-to-metal seal area, enabling use in a broad range of applications.



ULT plug valves (below 3-inch)

Up to 20,000 psi cold working pressure

Recommended service

Slick water, sand, proppant/gel, energized fluids, inhibited acids and cement

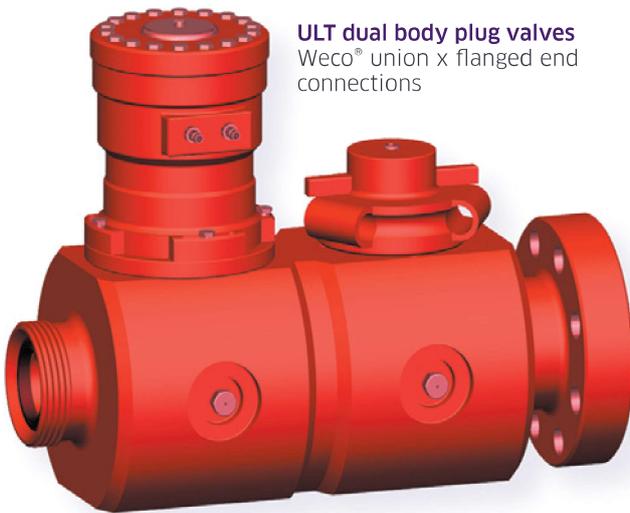
- 1. Eliminates body washout, extends body life**
Dual seals direct flow between the seal segment and plug to provide long, trouble-free service life.
- 2. Fast assembly**
Integral stem and plug provide fast, sure assembly without adjustments.
- 3. Interchangeable design**
Internal components of 1" size interchange with Weco® DR valve components, potentially extending the life of those valve bodies.
- 4. Eliminates corrosion in segment sealing area**
Dual segment seals greatly reduce erosive fluid flow between the seal segments and the plug valve body to improve sealing capabilities and extend service life.

Specialty ULT Plug Valves

The ULT plug valve's proven, proprietary design technology enables customers to take advantage of a wide range of configurations for a host of specialty applications. Options include single and dual body designs; drill pipe, Weco® union, or flanged end connections; and side outlets. **(Consult factory for specific applications).**



See specifications tables **(pgs. 8-9)** for sizes, dimensions, weights, materials, and part numbers.



ULT dual body plug valves
Weco® union x flanged end connections



ULT flanged plug valves
Flanged end connections



ULT dual body plug valves
Drill pipe connections

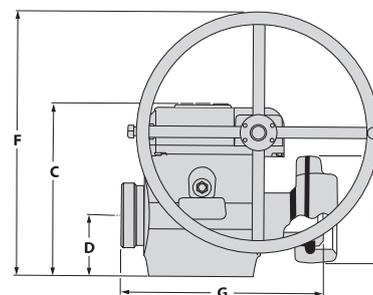
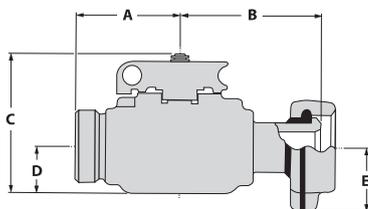
Weco® plug valve specifications

Weco® and Chiksan® low temperature ranges (LT)

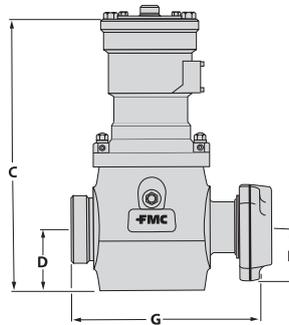
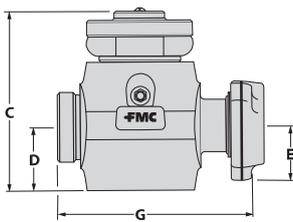
TechnipFMC leads the way with our new line of low temperature (-40°C) equipment. Please consult a TechnipFMC representative for more information on our standard service flowline low temperature products.

Plug valve model	Nominal size, in.	P/N	P/N-LT	Weco end connection *	Service	CWP psi bar	lb kg
ULT 150	1	P516114	-	1502	Standard	15,000 1034	33 15
ULT 100	1	P524578	-	1502	Sour	10,000 690	33 15
ULT 150	1x2	P516108	P516108-LT	1502	Standard	15,000 1034	43 (19.5)
	1x2 (.38 bore)	P516146	-	1502	Standard	15,000 1034	58 (26.3)
ULT 100	1x2	P516208	-	1502	Sour	10,000 690	43 (20)
ULT 150	2	P537789	-	1502	Standard	15,000 1034	84 (38)
DR 200	2	3234183	-	2202	Sour	15,000 1034	98 (45)
ULT 150 (Manual)	3	3265904	-	1502	Standard	15,000 1034	238 (108)
ULT 100 (Manual)	3	P501010	-	1502	Sour	10,000 690	231 (105)
ULT 150 (Manual)	3	P555686	-	1505	Standard	15,000 1034	247 (112)
ULT 100 (Handwheel)	3	P556455	-	1505	Standard	15,000 1034	314 (143)
ULT 150 (Hydraulic)	3	3265123	-	1502	Standard	15,000 1034	412 (187)
ULT 100 (Hydraulic)	3	3267427	-	1502	Sour	10,000 690	405 (184)
ULT 150 (Handwheel)	3	3265122	-	1502	Standard	15,000 1034	305 (139)
ULT 100 (Handwheel)	3	3265257	-	1502	Sour	10,000 690	315 (143)
ULT 200 (Hydraulic)	3	P519087	P519087-LT	2002	Standard	20,000 (1380)	845 (384)
ULT 150 (Handwheel)	3	P522233	-	2202	Sour	15,000 1034	689 (313)
ULT 100 (Hydraulic)	4	P518352	P518352-LT	1002	Standard	10,000 690	830 (377)
ULT 100 (Handwheel)	4	P518356	P518356-LT	1002	Standard	10,000 690	633 (287)
ULT 150 (Hydraulic)	4	P516015	P516015-LT	1502	Standard	15,000 1034	871 (395)
ULT 150 (Handwheel)	4	P518749	P518749-LT	1502	Standard	15,000 1034	716 (325)

Note: * Other end connections are available. Consult factory.



Plug valve model	Nominal size, in.	A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)	F in. (mm)	G in. (mm)
ULT 150	1	4.69 (119)	5.88 (149)	6.59 (167)	1.75 (45)	2.88 (73)	-	-
ULT 100	1	4.69 (119)	5.88 (149)	6.59 (167)	1.75 (45)	2.88 (73)	-	-
ULT 150	1x2	4.69 (119)	5.88 (149)	6.59 (167)	1.75 (45)	3.93 (100)	-	-
	1x2 (.38 bore)	4.69 (119)	5.88 (149)	6.59 (167)	1.75 (45)	3.93 (100)	-	-
ULT 100	1x2	4.69 (119)	5.88 (149)	6.59 (167)	1.75 (45)	3.93 (100)	-	-
DR 150	2	6 (152)	7.88 (200)	8.05 (205)	2.62 (67)	3.93 (100)	-	-
	2	6 (152)	7.88 (200)	8.05 (205)	2.62 (67)	3.93 (100)	-	-
DR 200	2	6.06 (154)	9.19 (233)	8.05 (205)	2.62 (67)	3.76 (96)	-	-
	2	6.06 (154)	9.19 (233)	8.05 (205)	2.62 (67)	3.76 (96)	-	-
ULT 150 (Manual)	3	-	-	14.27 (363)	5 (127)	4.55 (116)	-	15.69 (399)
ULT 100 (Manual)	3	-	-	14.27 (363)	5 (127)	5.25 (133)	-	15.69 (399)
ULT 150 (Manual)	3	-	-	14.49 (368)	5 (127)	5.25 (133)	-	15.69 (399)
ULT 100 (Handwheel)	3	-	-	14.49 (368)	5 (127)	5.25 (133)	-	15.69 (399)
ULT 150 (Hydraulic)	3	-	-	21.81 (554)	5 (127)	4.55 (116)	-	15.69 (399)
ULT 100 (Hydraulic)	3	-	-	21.81 (554)	5 (127)	4.55 (116)	-	15.69 (399)
ULT 150 (Handwheel)	3	-	-	14.47 (368)	5 (127)	4.55 (116)	22.12 (562)	15.69 (399)
ULT 100 (Handwheel)	3	-	-	14.47 (368)	5 (127)	4.55 (116)	22.12 (562)	15.69 (399)
ULT 200 (Hydraulic)	3	-	-	29.63 (753)	6.26 (159)	6 (152)	-	22.08 (561)
ULT 200 (Handwheel)	3	-	-	17.62 (448)	6.26 (159)	6 (152)	36.88 (937)	22.08 (561)
ULT 150 (Handwheel)	3	-	-	17.62 (448)	6.26 (159)	6 (152)	36.88 (937)	22.08 (561)
ULT 100 (Hydraulic)	4	-	-	28.49 (724)	7.00 (118)	4.94 (126)	-	22.85 (580)
ULT 100 (Handwheel)	4	-	-	19.1 (485)	7.00 (118)	4.94 (126)	38.36 (974)	22.85 (580)
ULT 150 (Hydraulic)	4	-	-	28.49 (724)	7.00 (118)	4.94 (126)	-	22.85 (580)
ULT 150 (Handwheel)	4	-	-	19.1 (485)	7.00 (118)	4.94 (126)	38.29 (973)	22.85 (580)



- 1", 1x2" ULT 150, DR150 and DR200 plug valves can be furnished with hydraulic actuators.