



Well Service Pump Valves

MSI Technical Bulletin 031

Subject: Guidelines concerning valves, seats, and springs for use in MSI well service pumps.

Many aftermarket options are available for well service pump valves, but not all products are created equal. Since there are no standards which regulate valves and seats, differences between manufacturers may exist. As a result, each valve/seat set must be validated separately to verify correct operation of the pump.

In order to ensure the highest quality parts are used in MSI well service pumps, MSI now offers valves and seats designed specifically for MSI fluid cylinders.

MSI Valvetrain Sets				
Size	Suction Valve	Discharge Valve	Seat	Spring
Small Bore Fluid End, 2.75" – 3.00", size "P2"	FEC0504, Replaceable Insert (FEC0504-I)		FEC0453	FEC0093 (11#)
Large Bore Fluid End, 3.25" – 4.50", size "P4"	FEC0472, Replaceable Insert (FEC0472-I)		FEC0473	*FEC0003 (72# / \)

*FEC0246 (36# / \) may be used on suction side for low suction pressure applications. / \ = conical spring; | | = straight spring

MSI recommends that valve and seat components not be mixed between manufacturers. Doing so may cause damage to the pump and void the MSI pump warranty. Mismatching of any shape or form is prohibited.

You may contact an MSI representative at sales@diwmsi.com or engineering@diwmsi.com if you have any further questions or concerns.

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APPENDIX A:

Approved alternative valve and seat components

The tables below list alternative valve components which MSI has tested and have been successfully used in field operations. These are the only non-MSI valve components that MSI approves for use in MSI well service pumps. A "V" suffix added to the root part number designates Viton® seals, these qualify as well.

Mission (NOV) Sets				
Size	Suction Valve	Discharge Valve	Seat	Spring
Small Bore Fluid End, 2.75" – 3.00", size "P2"	FEC0293(V), Bonded Insert, 22.5k Rupture Disk	FEC0292(V), Bonded Insert	FEC0291(V)	FEC0093 (11#)
Large Bore Fluid End, 3.25" – 4.50", size "P4"	FEC0343 (V), Bonded Insert, 10k Rupture Disk	FEC0345(V), Bonded Insert	FEC0247(V)	*FEC0003 (72# / \)
	FEC0344(V), Bonded Insert, 15k Rupture Disk			

*FEC0246 (36# / \) may be used on suction side for low suction pressure applications. / \ = conical spring; | | = straight spring

Novatech (Weir) Sets				
Size	Suction Valve	Discharge Valve	Seat	Spring
Small Bore Fluid End, 2.75" – 3.00", size "P2"	FEC0091, Replaceable Insert		FEC0092	FEC0093 (11#)
Large Bore Fluid End, 3.25" – 4.50", size "P4"	FEC0017, Replaceable Insert		FEC0016	*FEC0003 (72# / \)

*FEC0246 (36# / \) may be used on suction side for low suction pressure applications. / \ = conical spring; | | = straight spring

This bulletin is intended to ensure the safe and proper operation of the MSI pump as a result of using suitable valves and seats. It is not intended to limit our customers' service or maintenance options.