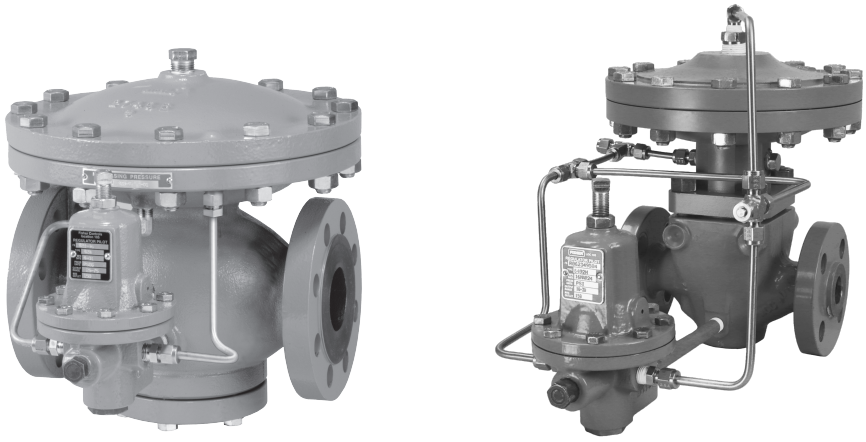
Fisher™ Type 92B to Type 92EZ Pressure Reducing Valve Transition Management Guide



TYPE 92B

TYPE 92EZ

Figure 1. *Types 92B and 92EZ Main Valve*

Background

The Fisher Type 92EZ Pressure Reducing Valve is applied as a main pressure reducing valve in industrial process heating applications such as heat exchangers, evaporators, digesters and reactors. The Type 92EZ overlaps heavily with the Type 92B pressure reducing regulator in both offering and application.

The Type 92EZ offers a number of improvements and upgrades compared to the Type 92B. It features higher inlet pressure, higher emergency outlet pressure, higher temperature and more control range capabilities. These advantages have resulted in a marked improvement over the legacy Type 92B.

Table 1. *New and Legacy Products Description*

NEW PRODUCT	DESCRIPTION	LEGACY PRODUCT
Type 92EZ	Pressure Reducing Valve	Type 92B

Table 2. *Launch and Obsoletion Dates*

TYPE 92EZ LAUNCH DATE	TYPE 92B OBSOLETION DATE
NPS 1, 1-1/2, 2 / DN 25, 40, 50: **October 1, 2025** NPS 3, 4, 6 / DN 80, 100, 150: **TBD**	All Sizes: **TBD**

Purpose

The purpose of this document is to ease the transition of the user from the Type 92B to the new Type 92EZ. The transition can be most easily understood through the following categories:

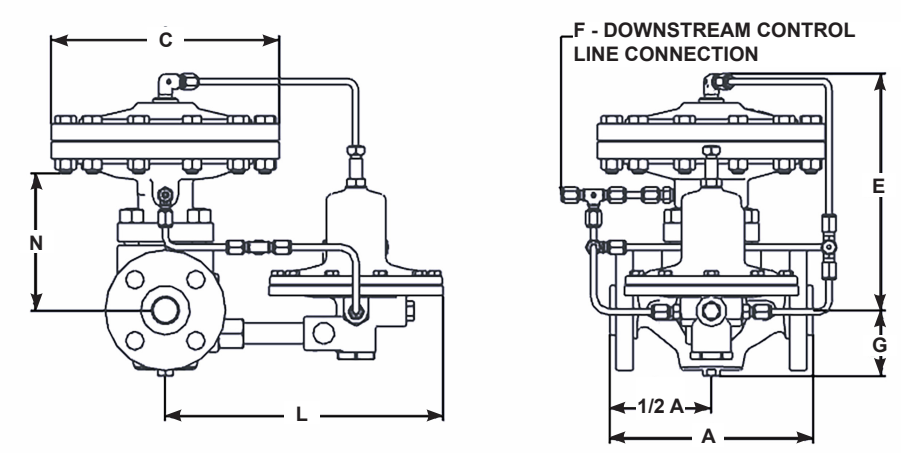
1. **Fit** – Is the installation of this product different?
2. **Form** – Are there any physical changes?
3. **Function** – How is the product different in its operation and performance?

Type 92B to Type 92EZ

Table 3. *Technical Specification Comparison*

SPECIFICATION	TYPE 92B 	TYPE 92EZ 
Size, NPS / DN	1, 1-1/2, 2, 3, 4 / 25, 40, 50, 80, 100	1, 1-1/2, 2, 3, 4, 6, 8 x 6, 12 x 6 / 25, 40, 50, 80, 100, 150, 200 x 150, 300 x 150
Body Material and End Connections	Cast iron: NPT, CL125 FF, CL250 RF	Cast iron: NPT, CL125 FF, CL250 RF
	Steel: NPT, CL150 RF, CL300 RF	Steel: NPT, CL150 RF, CL300 RF, CL600 RF
Regulating C_v Coefficients	NPS 1 / DN 25: 9.4 NPS 1-1/2 / DN 40: 16 NPS 2 / DN 50: 27.4 NPS 3 / DN 80: 86.9 NPS 4 / DN 100: 129	NPS 1 / DN 25: 11.7 NPS 1-1/2 / DN 40: 20.1 NPS 2 / DN 50: 34.8 NPS 3 / DN 80: TBD NPS 4 / DN 100: TBD NPS 6 / DN 150: TBD
Wide-Open C_v Coefficients	NPS 1 / DN 25: 13.7 NPS 1-1/2 / DN 40: 26.3 NPS 2 / DN 50: 42.3 NPS 3 / DN 80: 86.9 NPS 4 / DN 100: 129	NPS 1 / DN 25: 12.1 NPS 1-1/2 / DN 40: 20.7 NPS 2 / DN 50: 35.8 NPS 3 / DN 80: TBD NPS 4 / DN 100: TBD NPS 6 / DN 150: TBD
Maximum Inlet Pressure	Cast iron: 250 psig / 17.2 barg	Cast iron: 250 psig / 17.2 barg
	Steel or SST: 300 psig / 20.7 barg	Steel or SST: 550 psig / 37.9 barg
Maximum Operating Outlet Pressure	Cast iron: 150 psig / 10.3 barg	Cast iron: 150 psig / 10.3 barg
	Steel or SST: 250 psig / 17.2 barg	Steel or SST: 250 psig / 17.2 barg
Maximum Emergency Outlet Pressure	Cast iron: 150 psig / 10.3 barg	Cast iron: 250 psig / 17.2 barg
	Steel or SST: 300 psig / 20.7 barg	Steel or SST: 300 psig / 20.7 barg
Minimum Differential Pressure	Standard Spring: 20 psid / 1.4 bard Low Differential Spring: 10 psid / 0.7 bard	Standard Spring: 20 psid / 1.4 bard Low Differential Spring: 10 psid / 0.7 bard
Maximum Temperature	Cast iron: 406°F / 208°C	Cast iron: 406°F / 208°C
	Steel or SST (Standard Temperature): 450°F / 232°C	Steel or SST (Standard Temperature): 450°F / 232°C
	Steel or SST (High Temperature): 600°F / 316°C	Steel or SST (High Temperature): 650°F / 343°C
Pilot Control Spring Ranges	**Low Pressure**	**Low Pressure**
	2 to 6 psig / 0.14 to 0.41 barg	2 to 6 psig / 0.14 to 0.41 barg
	5 to 15 psig / 0.34 to 1.0 barg	5 to 15 psig / 0.34 to 1.0 barg
	13 to 25 psig / 0.90 to 1.7 barg	13 to 25 psig / 0.90 to 1.7 barg
	High Pressure	**High Pressure**
	15 to 30 psig / 1.0 to 2.1 barg	15 to 30 psig / 1.0 to 2.1 barg
	25 to 75 psig / 1.7 to 5.2 barg	25 to 75 psig / 1.7 to 5.2 barg
	70 to 150 psig / 4.8 to 10.3 barg	70 to 150 psig / 4.8 to 10.3 barg
	- - - -	80 to 250 psig / 5.5 to 17.2 barg
	High Temperature	**High Temperature**
	15 to 100 psig / 1.0 to 6.9 barg	15 to 100 psig / 1.0 to 6.9 barg
	80 to 250 psig / 5.5 to 17.2 barg	80 to 250 psig / 5.5 to 17.2 barg
Pilot Model	Type 92B Pilot	Type 92B Pilot

Note: Shaded cells indicate differences between the new and legacy product.



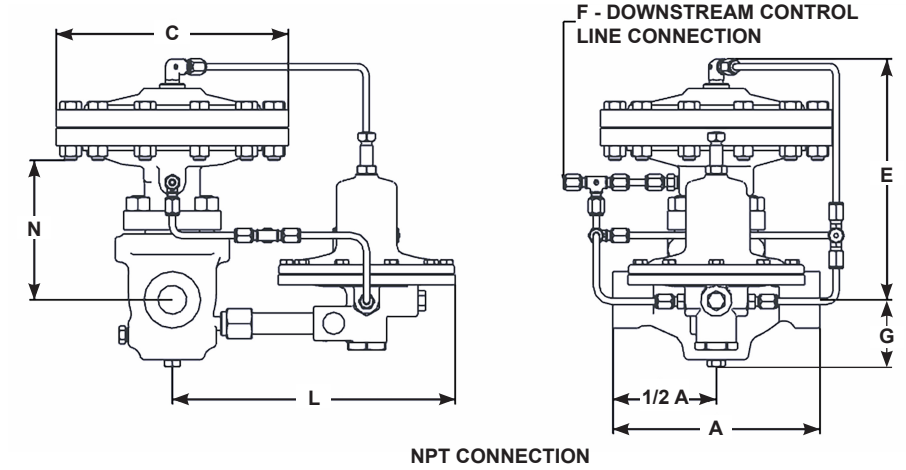


Figure 2. *Dimensions*

Table 4. *Type 92EZ Dimensions*

BODY SIZE		DIMENSIONS																					
		A								C		E		F (NPT)	G		N		L			
NPS	DN	NPT		CL125 FF and CL150 RF		CL250 RF and CL300 RF		CL600 RF											Low-Pressure Pilot		High-Pressure/ High Temp Pilot	
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm		In.	mm	In.	mm	In.	mm	In.	mm
1	25	8.25	210	7.25	184	7.75	197	8.25	210	9.25	235	9.60	244	1/4	2.65	67	5.55	141	11.40	290	10.25	260
1-1/2	40	9.88	251	8.75	222	9.25	235	9.88	251	10.38	264	10.25	260	1/4	3.08	78	5.67	144	11.40	290	10.25	260
2	50	11.25	286	10.00	254	10.50	267	11.25	286	11.88	302	12.06	306	1/4	3.33	85	7.33	186	11.40	290	10.25	260

Table 5. *Type 92B Dimensions*

BODY SIZE		DIMENSIONS																					
		A										C		E		F (NPT)	G		N		L		
NPS	DN	NPT		CL125 FF[1] and CL150 RF		CL250 RF[1] and CL300 RF		PN 16 RF		PN 25/40 RF											Low-Pressure Pilot		High-Pressure/ High Temp Pilot	
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm		In.	mm	In.	mm	In.	mm	In.	mm
1	25	6.50	165	7.25	184	7.75	197	7.75	197	7.75	197	9.25	235	6.81	173	1/4	3.25	82.6	2.81	71.4	10.25	260	8.38	213
1-1/2	40	8.00	203	8.75	222	9.25	235	9.06	230	9.06	230	10.38	264	7.00	178	1/4	3.81	96.8	3.94	100[2]	10.69	272	8.81	224
2	50	9.25	235	10.00	254	10.50	267	10.25	260	10.25	260	11.88	302	7.75	197	3/8	4.12	105	3.91	99.3	11.25	286	9.38	238
3	80	- - - -	- - - -	11.75	298	12.50	317	11.81	300	12.21	310	13.88	353	8.94	227	1/2	5.19	132	5.50	140	12.12	308	10.25	260
4	100	- - - -	- - - -	13.88	353	14.50	368	13.56	344	13.88	353	14.88	378	10.12	257	1/2	6.44	164	6.38	162	13.12	333	11.25	286

1. Cast iron flanges are not available for the NPS 1 / DN 25 body.
2. 3.44 in. / 87 mm NPT bodies.

The following is a discussion covering each of these three elements.

Fit

Table 3 shows a comparison of body sizes, material and end connections. The new and legacy product have the same body sizes and end connections with the Type 92EZ offering additional NPS 6, 8 x 6 and 12 x 6 / DN 150, 200 x 150, 300 x 150 body sizes. The new product also offers additional CL600 RF end connection option for the steel body. Face-to-face dimensions of flanged connections are the same. For additional dimension comparison please refer to Figure 2 and Tables 4 and 5.

Form

The Type 92EZ offers the same configuration options as the legacy product as shown in Table 3. Both of the new and legacy products offer cast iron and steel bodies. The springs were designed around common set points for optimal performance.

Function

The Type 92EZ features improvements that allow them to function effectively in a larger range of applications. These improvements include a higher maximum inlet pressure for steel body option and a higher maximum emergency outlet pressure for cast iron body option. It also provides higher regulating Cv coefficients. Reduced port options will not be needed due to a higher wide open Cv coefficient. Additional spring option is offered for high pressure applications in 80 to 250 psig / 5.5 to 17.2 barg. The new and legacy products uses the same pilot model, which is the Type 92B pilot.

Conclusion

The introduction of the Type 92EZ marks the improvement of pressure reducing valve technology established by the Type 92B, while maintaining their standard of quality and durability. The increased flow, pressure and temperature capabilities make the Type 92EZ more versatile than their predecessors, while still allowing easy in-line maintenance. Please refer to the respective product bulletins and instruction manuals for complete features.

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