P627/R627 Iron Offering
BG-18-05

Scope:
The purpose of this technical note is to inform customers of a currently unpublished offering in the P627/R627 product line. The option to build a unit with ductile iron housing and bonnet has been available as of July 2016. It was decided that this option would be denoted by the letter “D” in the 15th digit of the part number matrix. This option will be included in the next release of the P627/R627 literature.

Updated Matrix:

	6	2	7	X	X	X	X	X	X	X	X	1	

↑	
P	Non Relieving
R	Internal Relief Valve

↑	Case/Body
0	Aluminum/Iron
1	Steel/Steel
2	Aluminum/Steel
6	Aluminum/LCC Steel
7	Steel/LCC Steel
8	Steel/Iron
9	Stainless/Stainless
D	Iron/Iron

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P627/R627 Seat Material Selection BG-18-01

P627/R627 Seat Material Selection Guidelines

Marsh Bellofram Engineering issues the following guidelines to clarify seat material selection in P627/R627 products. We are issuing the following guidelines to our distributors to help clarify situations when different seat material should be used.

- For high inlet pressures (> 500 PSIG) or for high flow rate/high gas velocity applications, a nylon seat is generally recommended. The nylon seat provides longer life and more durability in these applications than elastomer seat materials.
- For high outlet pressures (>150 PSIG), a nylon seat is recommended.
- For Spring Ranges 5-20 PSIG, 10-95 PSIG, and 15-40 PSIG; a nitrile seat or fluorocarbon seat must be used to ensure that the full output pressure range can be achieved for the maximum inlet pressure of each orifice size in the regulator lock up condition. This is regardless of orifice size.
- For outlet pressures as low as 15 PSIG; it is possible, in some applications, for the regulator to function in a lock up condition using a nylon seat for the full rated inlet pressure range of the orifice. This is generally the case for orifices sizes less than 3/16". Orifice sizes ¼" and larger can be used if required, but may require a slight downstream flow through the regulator to achieve an output pressure as low as 15 PSIG.
- It is highly recommended for any application requiring the use of a nylon seat with an outlet pressure as low as 15 PSIG that the factory be contacted so that the application can be reviewed. Regulator and seat material performance will be dependent upon orifice size, inlet pressure, flow rate, and cycle rate of the application.
- The maximum inlet pressure ratings for all seat materials detailed in the Specifications Table and Flow Capacity Tables (below) must always be followed. Failure to follow these pressure limitations may result in damage to the seat material or may affect regulator performance.

	Spring Range	
	PSIG	BAR
020	5 - 20	0.34 - 1.4
040	15 - 40	1 - 2.8
080	35 - 80	2.4 - 5.5
095	10 - 95	0.7 - 6.6
150	70 - 150	4.8 - 10.3
250	140 - 250	9.7 - 17.2
500	240 - 500	16.5 - 34.5

NOTE: Nitrile or FKM is recommended for 5-20, 15-40 and 10-95 PSIG. Nylon is recommended for pressures above 150 PSIG or low pressure 3/32" & 1/8" orifice.

	Seat Material
0	Nitrile
1	Nylon
2	Fluorocarbon

NOTE: Nitrile or FKM is recommended for 5-20, 15-40 and 10-95 PSIG. Nylon is recommended for pressures above 150 PSIG or low pressure 3/32" & 1/8" orifice.

Maximum Inlet Body Pressure		
Nylon Seat	2000 PSIG	Steel / SS
	1000 PSIG	Ductile Iron
	1485 PSIG	Flanged Steel
Nitrile Seat	1000 PSIG	All Units
Fluorocarbon Seat	300 PSIG	All Units