

## Mini, Hard Seat

## 100 SERIES



- Compact size valve built for maximum durability and robust performance in the toughest applications
- 100% helium leak tested to  $1 \times 10^{-4}$  ml/s for guaranteed performance and reliability
- Hard seat valves have a maximum pressure of 10,000 psi for stainless steel and steel models; 6,000 psi for brass
- Available in zinc-nickel plated steel, electropolished stainless steel, and brass
- FKM o-ring seal and PTFE back-up ring below the stem threads to protect from corrosion and galling; PTFE or Grafoil® packing optional
- All stems are 316 stainless steel
- All stem threads are rolled for strength and ease of operation
- Patented body-to-bonnet, metal-to-metal seal is designed to significantly increase the pressure range of the valve (**U.S. Patent 7,758,014**)

## SPECIFICATIONS

Materials	Zinc-nickel plated steel, electropolished 316 stainless steel, 360 brass
Connections	1/8" NPT, 1/4" NPT, 7/16"-20 UNF-2B, 9/16"-18 UNF-2B Male-male, Male-female, Female-female, in-line and angled configurations
Pressure ratings*	Brass: 6,000 psi @ 200 °F Steel: 10,000 psi @ 200 °F Stainless steel: 10,000 psi @ 200 °F
Orifice size	0.172"
Flow coefficient	$C_v$ 0.42
Stem seal & type	All 316 stainless steel stems with FKM o-ring and PTFE back-up ring below the threads, PTFE or Grafoil® packing optional
Options	Panel mountings, o-ring materials, handles, packings, regulating stem and stem tips

\* If a packing option is chosen, maximum pressure rating is 6,000 psi. Refer to the "Pressure vs. Temperature: Packing Style with Compatible Fluid" chart at the back of this catalog.

NOTE: All NOSHOK valve products conform to the MSS SP-99 instrument valves standards, and valves supplied with packing also conform to MSS SP-132 compression packing systems for instrument valves standard.

ORDERING INFORMATION						
SERIES	1	100 Series, hard seat				
CONNECTION SIZES	01	1/8" NPT	42	7/16"- 20 UNF-2B*		
	02	1/4" NPT	43	9/16"- 18 UNF-2B*		
VALVE TYPES	MMB	Male-Male, Brass	MFC	Male-Female, Steel	MFS	Male-Female, Stainless Steel
	MFB	Male-Female, Brass	EMFC	Extended Male-Female, Steel	EMFS	Extended Male-Female, Stainless Steel
	FFB	Female-Female, Brass	FFC	Female-Female, Steel	FFS	Female-Female, Stainless Steel
	EFFB	Extended Female-Female, Brass	EFFC	Extended Female-Female, Steel	EFFS	Extended Female-Female, Stainless Steel
	MMAB	Male-Male Angle, Brass	MMAC	Male-Male Angle, Steel	MMAS	Male-Male Angle, Stainless Steel
	MFAB	Male-Female Angle, Brass	MFAC	Male-Female Angle, Steel	MFAS	Male-Female Angle, Stainless Steel
	FFAB	Female-Female Angle, Brass	FFAC	Female-Female Angle, Steel	FFAS	Female-Female Angle, Stainless Steel
	MMC	Male-Male, Steel	MMS	Male-Male, Stainless Steel		

Please consult your local NOSHOK Distributor or NOSHOK, Inc. for availability and delivery information.

\* Available only on EFFB, EFFC and EFFS valve types.

#### EXAMPLE

Series ..... 100 hard seat  
 Connection size ..... 1/4" NPT  
 Valve type ..... Female-female, steel

102 - FFC

To meet all of your specific application requirements, the following additional options are available for these needle valves. To order all or any of these options, simply add them to the part number as shown in the diagram below.

NOTE 1: The example shown includes ALL possible additional options. Please include ONLY the options required for your application when building your part number. (EXAMPLE: 102-MFC-HL3)

NOTE 2: When a packing option is selected, an o-ring option is NOT available.

ORDERING INFORMATION - Additional Options			
PACKINGS†	P1 PTFE	P2 Grafoil®	
STEM TIPS	T1 Non-rotating (316 stainless standard) T5 Ball (440C stainless)	T6 Ball (carbide) T7 Ball (ceramic)	T8 Ball (Monel) T9 Regulating hard
O-RINGS*	EM1 EPDM	KZ1 FFKM (Kalrez® 3018 or equivalent)	NB1 NBR
PANEL MOUNTINGS	PM1 Panel mount (1 nut)	PM2 Panel mount (2 nuts)	
HANDLES	HL2 2-1/2" "T" HL3 1" Round knurled	HL4 1-3/8" Phenolic HL5 1-3/4" Phenolic	

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† If a packing option is chosen, maximum pressure rating is 6,000 psi. Refer to the "Pressure vs. Temperature: Packing Style with Compatible Fluid" chart at the back of this catalog.

\* Other o-ring materials available on request.

Please note that the standard o-ring in all the NOSHOK mini valves is FKM and the standard handles are brass round knurled (HL3) handles, steel mini "T" handles (HL1), and 316SS mini "T" handles (HL1).

The handle material will always match the material of the valve, unless otherwise specified. For example, the round knurled (HL3) on a 102-FFB will be brass. When only the standard configuration is needed, no additional designations are necessary. Please consult the factory for special application requests.

#### EXAMPLE with Additional Options

Series..... 100 hard seat  
 Connection size..... 1/4" NPT  
 Valve type.....Female-female, steel  
 Packing.....PTFE  
 Stem tip ..... Non-rotating  
 Panel mount.....Panel mount (2 nuts)  
 Handle ..... 1-3/8" Phenolic

102 - FFC - P1 - T1 - PM2 - HL4