NEEDLE VALVE

Unidirectional Flow (Hard Seat)

Bidirectional Flow (Soft Seat)

Needle valves are used to provide shutoff in process and instrumentation lines. They are used to isolate pressure gauges, transmitters, and switches so that instruments can be installed and removed without shutting down the system.

FEATURES / BENEFITS

- Complies with MSS SP-99 and MSS SP-132 Standards Where Applicable
- Rolled Threads for Strength, Durability, and Ease of Use
- 316SS Body Option Complies with NACE MR0175
- Leak Tested Before Shipping
- Available Factory-Installed on Reotemp Instruments

SPECIFICATIONS

Body Material	316 Stainless Steel, Carbon Steel, Monel, Hastelloy C276, Duplex 2205, Super Duplex 2507
Max Pressure Rating Available	10,000psi
Min/Max Temperature Rating Available	-67°F to 1,000°F
Seats Available	Hard, POM, PEEK, PCTFE, ETFE
Connections Available	1/4", 3/8", 1/2", 3/4", 1", 1.25", 1.5" NPT

NEEDLE VALVE

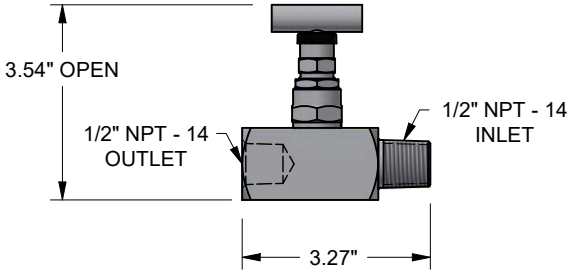
HOW TO ORDER: Choose options to build a part number. For example: **N12HTX22S-HT**

N12 | H | T | X | 22 | S | -HT

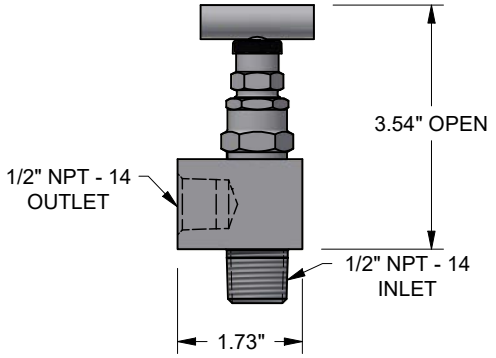
MODEL	SEAT TYPE	STEM SEAL	SEAT/TIP	CONNECTIONS	BODY MATERIAL	OPTIONS
N12 = Process Needle Valve **NA2** = Angled Process Needle Valve[1] [1]Available in hard seat only.	**H** = Hard Seat (Integral) **S** = Soft Seat	**T** = PTFE Packing-Standard **V** = High Pressure FKM O-Ring[1] **G** = Graphite Packing[1] **H** = High Pressure PTFE Packing[2] **J** = High Pressure Graphite Packing[2] **F** = FKM O-Ring [2]Increases max pressure to 10,000 psi for PTFE and to 7,200 for Graphite. Available in hard seat only.	**X** = Hard Seat (Integral) -Standard **S** = Hard Seat With Stellite Valve Tip **P** = POM - Standard Soft Seat[3] **K** = PEEK Soft Seat **F** = ETFE Soft Seat **C** = PCTFE Soft Seat[4] **R** = Hard Seat With POM Tip **M** = Hard Seat With PCTFE Tip [3]POM is comparable to Delrin. [4]PCTFE is equivalent to Kel-F.	**22** = 1/2" MNPT Inlet x 1/2" FNPT Outlet **2F** = 1/2" FNPT Inlet x 1/2" FNPT Outlet **2M** = 1/2" MNPT Inlet x 1/2" MNPT Outlet **24** = 1/2" MNPT Inlet x 1/4" FNPT Outlet **44** = 1/4" MNPT Inlet x 1/4" FNPT Outlet **4F** = 1/4" FNPT Inlet x 1/4" FNPT Outlet **32** = 3/4" MNPT Inlet x 1/2" FNPT Outlet **33** = 3/4" MNPT Inlet x 3/4" FNPT Outlet **3F** = 3/4" FNPT Inlet x 3/4" FNPT Outlet **11** = 1" MNPT Inlet x 1" MNPT Outlet[5] **1F** = 1" FNPT Inlet x 1" FNPT Outlet[5] **77** = 1.5" MNPT Inlet x 1.5" FNPT Outlet[5] **7F** = 1.5" FNPT Inlet x 1.5" FNPT Outlet[5] **66** = 1.25" MNPT Inlet x 1.25" FNPT Outlet[5] **6F** = 1.25" FNPT Inlet x 1.25" FNPT Outlet[5] **55** = 3/8" MNPT Inlet x 3/8" FNPT Outlet **5F** = 3/8" FNPT Inlet x 3/8" FNPT Outlet [5]Available with high pressure FKM O-Ring for hard seat and FKM O-Ring for soft seat only.	**S** = 316SS **M** = Monel 400 **H** = Hastelloy C-276 **C** = Carbon Steel **2** = Duplex **7** = Super Duplex	**OX** = Cleaned for Oxygen Service[6] **M4** = Panel Mounting **HT** = Internal Hydrostatic Test **PM** = Positive Material Test **MR** = MTR for Body **PP** = Power Piping According to ASME B31.1[7] **LT** = Very Low Process Temperature (-67°F)[8] **MT** = Medium Low Process Temperature (-40°F)[8] **EX** = Extended Body **T1** = Non-Rotating Stem Tip **TS** = Stainless Steel Tag [6]Max temperature is 392°F at 1,305 psi. Max pressure is 6,000psi at 140°F. [7]Graphite packing with S body only. [8]MT is not available with carbon steel, FKM, or PEEK. LT requires a hard seat or PCTFE soft seat, PTFE stem seal, and S body.

Note: Not all combinations in the above table are possible. Conversely, if a combination is desired but not seen, ask your Reotemp Sales Representative. Additional configurations and options are available upon request.

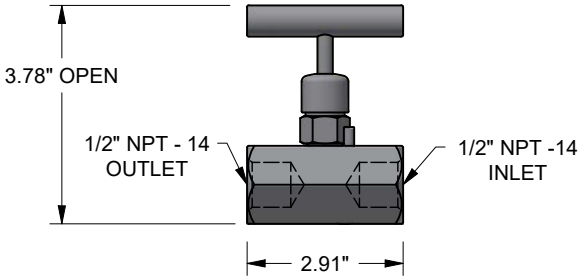
NEEDLE VALVE



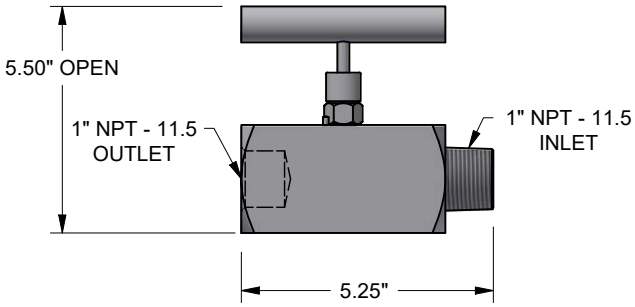
MxF with Teflon Packing
N12HTX22S



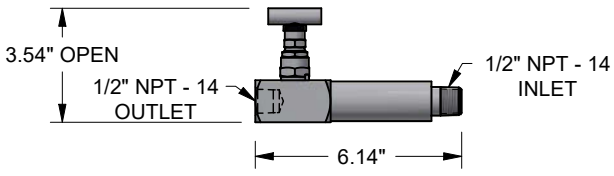
MxF Angled Body
NA2HTX22S



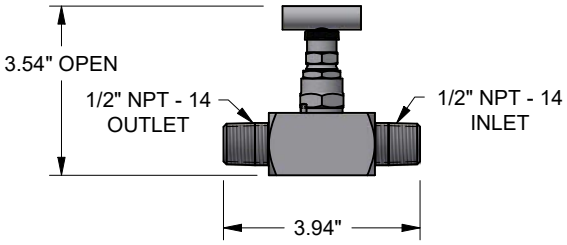
FxF with O-Ring
N12HVX2FS



MxF Large Sized Body
N12HVX11S



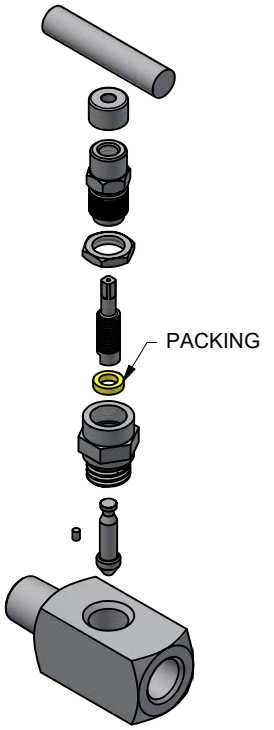
MxF Extended Body
N12HTX22S-EX



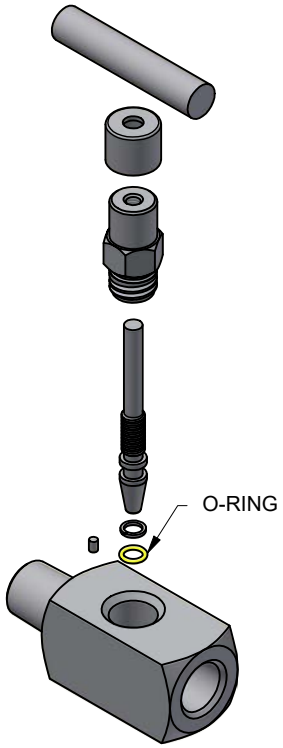
MxM with Teflon Packing
N12HTX2MS

NEEDLE VALVE

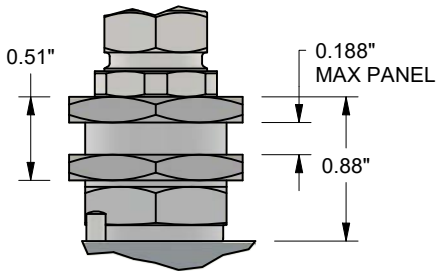
Valve Accessories and Options



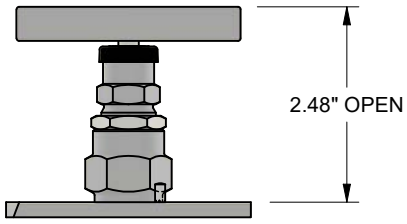
Packed Bonnet Seal Example



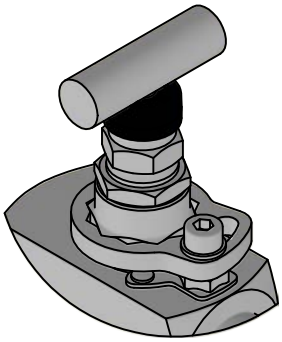
O-Ring Example



-M4 (Panel Mounting Option)



H and J (High Pressure Packing)



-PP (Power Piping Option)

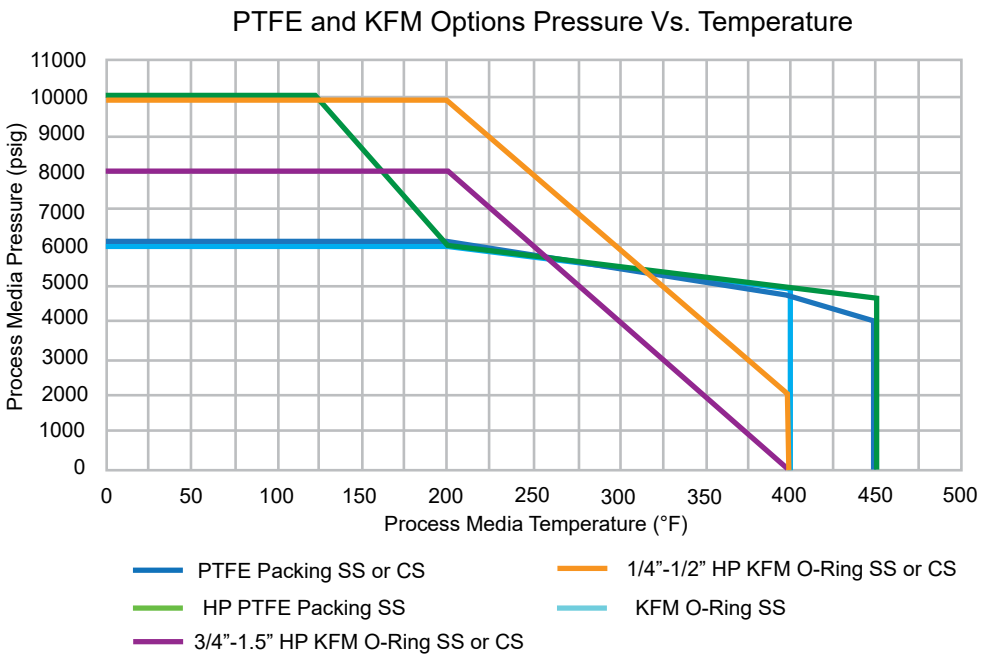
VALVES

NEEDLE VALVE

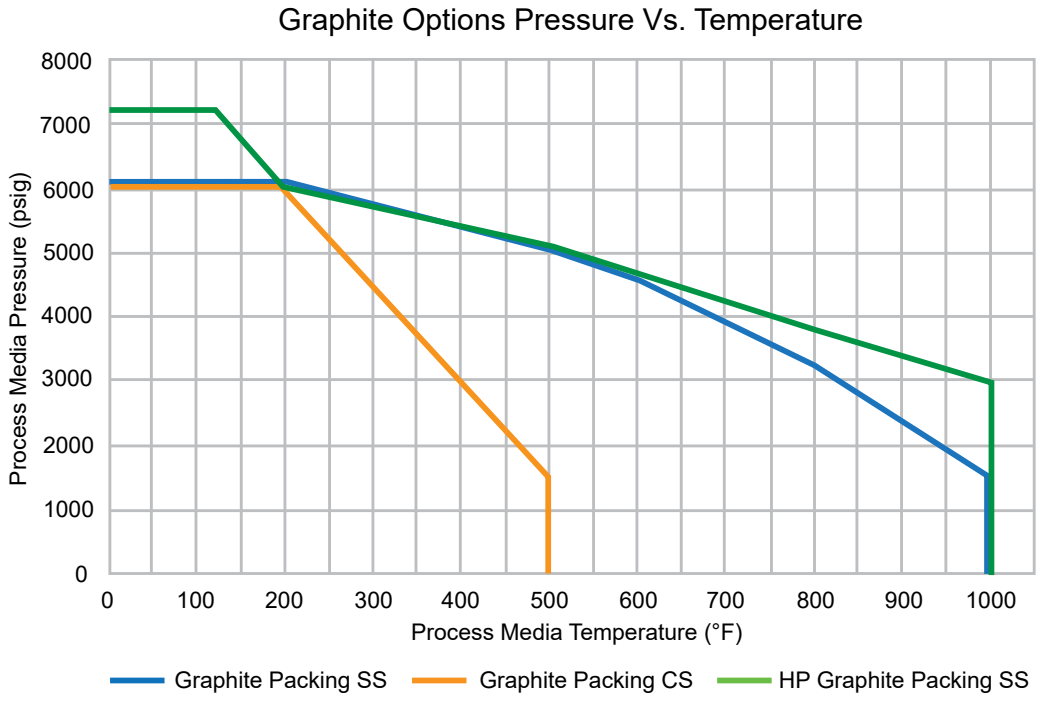
Exotic Material Componant Chart for Packed Valves					
Body Material Code		M	H	2	7
Wetted Parts	Body	Monel 400	Hastelloy C276	Duplex	Super Duplex
	Bonnet				
	Needle				
Non-Wetted Parts	Stem	316SS	316SS	316SS	316SS
	Stem Assembly (Excluding Bonnet)				
	T Handle				
	Pin				
	Packing	PTFE or Graphite	PTFE or Graphite	PTFE or Graphite	PTFE or Graphite

Note: On an O-ring sealed valve, the O-ring is a wetted part.

HARD SEAT CHART NEEDLE VALVE



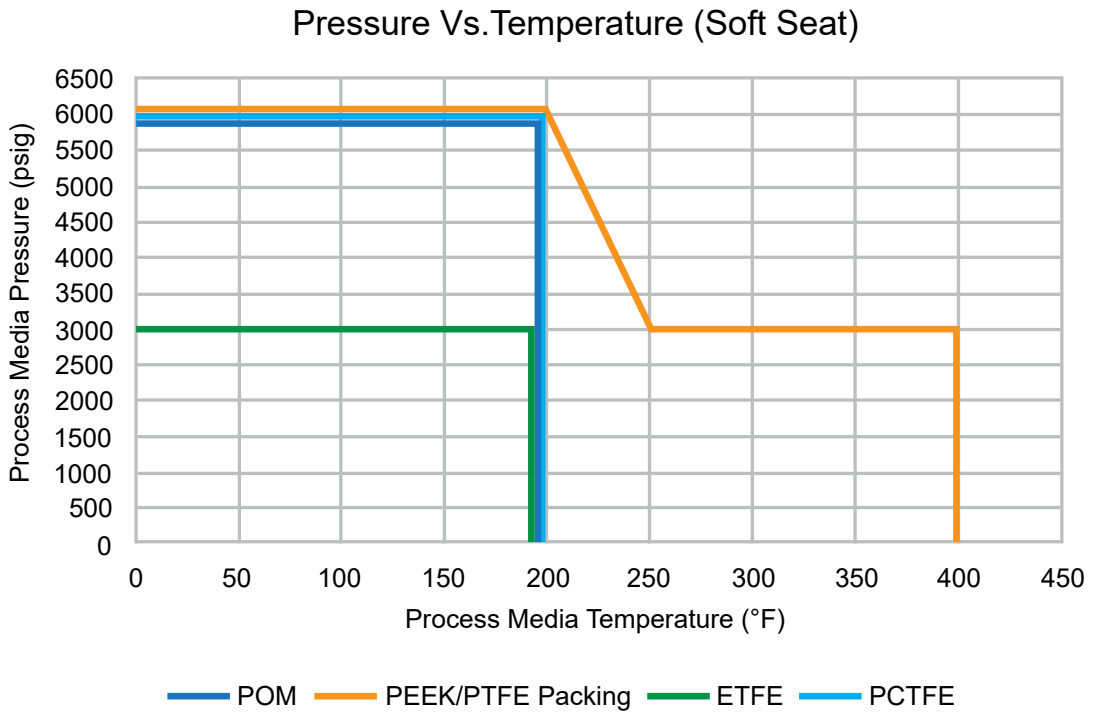
Hard Seat Ratings	
PTFE Packing SS or CS Body	6,000psi at 200°F 4,000psi at 450°F
High Pressure FKM O-Ring SS or CS Body (1/2" or Smaller)	10,000psi at 200°F 2,000psi at 392°F
High Pressure FKM O-Ring SS or CS Body (3/4" or Larger)	8,000psi at 200°F 2,000psi at 392°F
Graphite Packing and SS Body	6,000psi at 200°F 1,500psi at 1,000°F
Graphite Packing and CS Body	6,000psi at 200°F 1,500psi at 500°F
High Pressure PTFE Packing and SS Body	10,000psi at 120°F 4,000psi at 450°F
High Pressure Graphite Packing and SS Body	7,200psi at 120°F 3,000psi at 1,000°F
FKM O-Ring and SS Body	6,000psi at 200°F 4,500psi at 392°F



Soft Tip Max Temperature	
POM	212°F
PCTFE	302°F

Minimum Temperature Ratings	
No Additional Options	0°F
-MT Option Code	-40°F
-LT Option Code	-67°F

VALVE SOFT SEAT CHART



Soft Seat Ratings	
POM	6,000psi at 200°F
PEEK w/ PTFE Packing	6,000psi at 200°F 3,000psi at 400°F
ETFE	3,000psi at 200°F
PCTFE	6,000psi at 200°F

Minimum Temperature Soft Seat Ratings	
Soft Seat Value with No Options	0°F
-MT Option Code	-40°F
-LT Option Code	-67°F

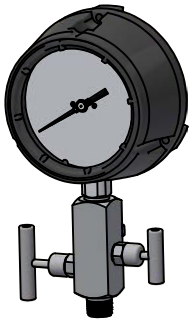
Note: EN 61518 guidelines for direct mount manifolds state that the max temperature on a flange mounted to a transmitter should not exceed 248°F to protect the transmitter from excess heat.

NEEDLE VALVE

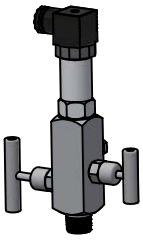
Instrument and Valve Assemblies

Why order a Reotemp Instrument and Valve Assembly?

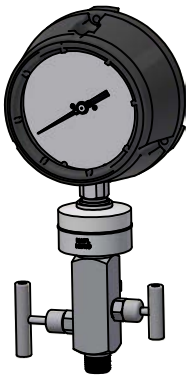
- Easy out-of-the-box installation
- All potential leak paths are factory tested (1,000 psi max)
- High quality sealant for each threaded connection
- Saves time in the field
- Fully customizable to include diaphragm seals, monoflanges, swivel adapters, etc.



Valve Mounted to Pressure Gauge



Valve Mounted to Transmitter



Valve Mounted to Diaphragm Seal

Why does every pressure instrument need the right valve?

- For easier maintenance and repair
- For quicker calibration checks
- For more control when putting an instrument into service
- For capturing process media before it vents to the atmosphere