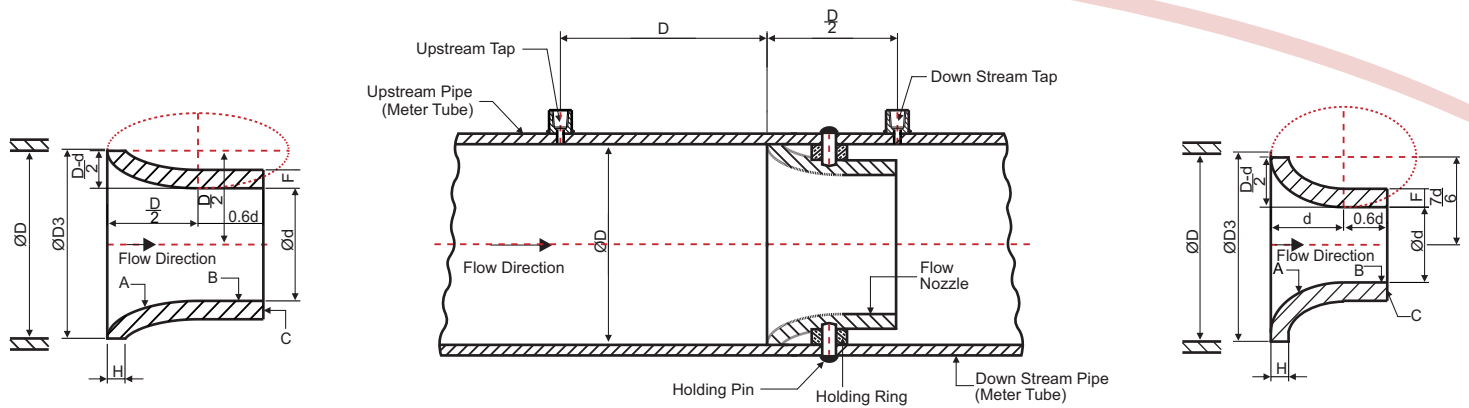


# FN400 H# Series Long Radius Flow Nozzles - Holding Ring Type



a) LONG RADIUS FLOW NOZZLES - High Beta Ratio  $0.25 \geq \beta \geq 0.8$

DESIGN STANDARD  
ISO 5167 / ASME MFC 3M

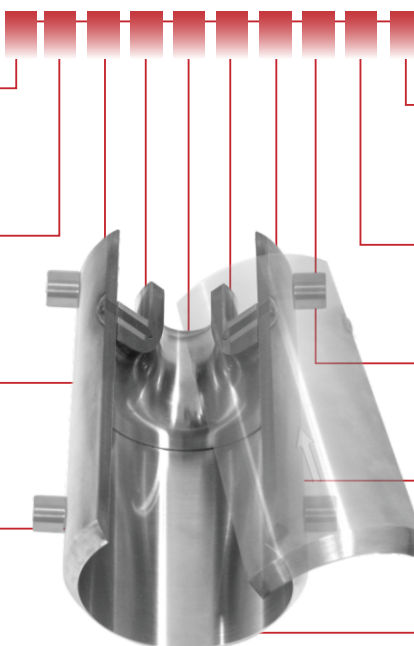
- A - Convergent Section; (quarter Of An Ellipse)
- B - Throat; Cylindrical Section
- C - Outlet Face
- $\phi d$  - Throat Diameter
- $\phi D$  - Pipe Internal Diameter
- $\phi D3$  - Nozzle Outer Diameter
- $\beta$  - Beta Ratio =  $D/d$

b) LONG RADIUS FLOW NOZZLES - Low Beta Ratio  $0.20 \geq \beta \geq 0.5$

DESIGN STANDARD  
ISO 5167 / ASME MFC 3M

Holding Ring type Nozzles with Meter Tube is another welding type designed for installation in a pipe without Flanges. The Nozzle is installed with the curved nozzle inlet facing upstream in a section of carefully selected and internally bored pipe. The Holding Ring Flow Nozzle eliminates the welding of dissimilar materials because the ring, pins and pipe are of compatible materials. Pipe wall taps are used with these nozzles (D-D/2 Tapping).

The Holding Ring Flow Nozzle requires careful consideration for use in sizes below 4" because difficulty may be encountered in welding the thin ring inside a small diameter pipe. Therefore holding ring type nozzles are not recommended below 4" size.



<b>Code</b>   <b>Element Type</b> FNLH   Long Radius Flow Nozzle-High Beta FNLL   Long Radius Flow Nozzle-Low Beta	1
<b>Code</b>   <b>Element Material</b> F304/L   A182 Gr.F304 / F304L F316/L   A182 Gr.F316 / F316L F11   A182 Gr.F11 F12   A182 Gr.F12 Mo   Monel Other   Please Specify	2
<b>Code</b>   <b>N.B. / Sch. / Rating</b> XX   Define eg:200NB Sch.20 300#	3
<b>Code</b>   <b>Meter Tube Material</b> A106   A106 Gr.B P11   A335 Gr.P11 P12   A335 Gr.P12 316   A312 TP 316 Other   Please Specify	4
<b>Code</b>   <b>Holding Ring Material</b> F316/L   A182 Gr.F316/F316L F11   A182 Gr.F11 F12   A183 Gr.F12 Mo   Monel Other   Please Specify	5
<b>Code</b>   <b>Option</b> 0   None 1   IBR Form IIIC Other   See Table-7	10
<b>Code</b>   <b>End Flange Type</b> XX   Please Define e.g. 150NB 600# Sch.120 WNRF	9
<b>Code</b>   <b>End Connection</b> BW   Butt Weld FL   Flanged	8
<b>Code</b>   <b>Meter Tube Length</b> XX   Please Define e.g. 10D, 15D	7
<b>Code</b>   <b>Pressure Tapping Connection</b> 3N   1/2" NPT [F] 4N   3/4" NPT [F] 1B   1/2" BSP [F] 2B   3/4" BSP [F] 1T   Other [see table - 6]	6

## ORDERING INFORMATION

FN400 h# Series FNLH-F316-150NB S120-P11-F11-3N-FL-WNRF300# -XX- Op1

Hydropneumatics Private Limited