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مصوب



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مدیریت پژوهش و فناوری

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IGS

مشخصات فنی خرید

شیرهای قفل شونده قبل از رگولاتور جهت انشعابات شبکه های گاز پلی اتیلن
(بدون اتصال عایقی)

Meter Stop Valves for P.E. Gas Service Lines
(Without Insulating Joint)

Contents

	<u>Title</u>	<u>Pages</u>
1	Scope	2
2	References.....	2
3	Symbol & abbreviated terms.....	3
4	Specification	3
5	Materials.....	3
6	Inspection & Tests	3
7	Marking.....	4
8	Table 1.....	5
9	Annex 1.....	6

1. Scope

This standard specification cover minimum NIGC'S requirements for Material, Manufacturing, Inspection, Testing and Marking of Meter Stop Valves for polyethylene pipe gas risers, 3/4 and 1 inch sizes, pressure rating 125 psi.

2. References

Throughout this standard specification, the following standards & codes are Referred to, the edition of these standards & codes those are in effect at the time of issuing of this standard specification. The applicability of changes in standards & codes that occur after the date of standards that referred shall be mutually agreed upon by the purchaser and supplier and / or manufacturer.

2.1. Normative references

- 2.1.1. ANSI B 16.33:2002, Manually Operated Metallic Gas Valves for Use in Piping Systems up to 125 psi (Sizes NPS 1/2 through NPS 2).
- 2.1.2. ANSI B 1.20.1:2001, Pipe Threads, General Purpose (inch).
- 2.1.3. ASTM A-126:2001, Standard Specification for Gray Iron Casting for Valves, Flanges and Pipe Fittings.
- 2.1.4. ASTM B.16:2002, Specification for Free-Cutting Brass Rod, Bar and Shapes for Use in Screw Machines.
- 2.1.5. ASTM B.61:2002, Standard Specification for Steam or Valve Bronze Castings.
- 2.1.6. ASTM B.62:2002, Standard Specification for Composition Bronze or Ounce Metal Castings.
- 2.1.7. ASTM B584:2006, Standard Specification for Copper Alloy Sand Casting for General Applications.
- 2.1.8. EN 13787:2001, Elastomers for Gas Pressure Regulators and Associated Safety Devices for Inlet Pressure up to 100 bar

3. Symbols and abbreviated terms

IGS	Iranian Gas Standard
NIGC	National Iranian Gas Company
NPS:	Nominal Pipe Size (inch)
NPT	National Pipe Taper thread
IRHD	International Rubber Hardness Degree
IRM	Industry Reference Materials
tpi	thread per inch

4. Specification

Meter stop Valve , manually operated , lubricated taper plug value , cast iron body , straight way , tamper proof for above ground installation complete with gas lock wing for locking the valve in closed position , suitable for polyethylene pipeline gas distribution system.

5. Materials

5.1-The material of body shall be made of gray cast iron at least according to ASTM A-126 class B. Plug, Retaining nuts and washers shall be according to ASTM B 61 or ASTM B 62 or ASTM 584 (Retaining nuts and washers can be according to ASTM B-16).

5.2- Elastomeric materials such as NBR used for O-rings, shall be according to EN13787 with requirements as per table1.

5.3-The outlet of body shall be male thread completed with carbon steel half union together with associated malleable/ductile cast iron nut. The half union shall be suitably protected from atmospheric corrosion for long time.

6. Inspection and Tests

6.1- The valve shall be tested in accordance with ANSI B 16.33 .

6.2 - The outlet of half union shall be female thread in accordance with ANSI B 1.20.1.

6.3-The body inlet shall be female NPT thread in accordance with ANSI B 1.20.1.

6.4-The lubrication screw hexagonal socket shall be 1/8" NPT-27tpi as per FIG 1.

6.5- All valves shall be leak tested in closed position pneumatically at 1.5 times of pressure rating. Works inspection certificate shall be submitted by Manufacturer/supplier

6.6- Factory material certificates are required.

6.7 -Drawings shall be approved by NIGC.

6.8 - Sizes NPS $\frac{3}{4}$ or NPS 1, as per purchase order.

7. Marking

Marking shall be in accordance with ANSI B 16.33.

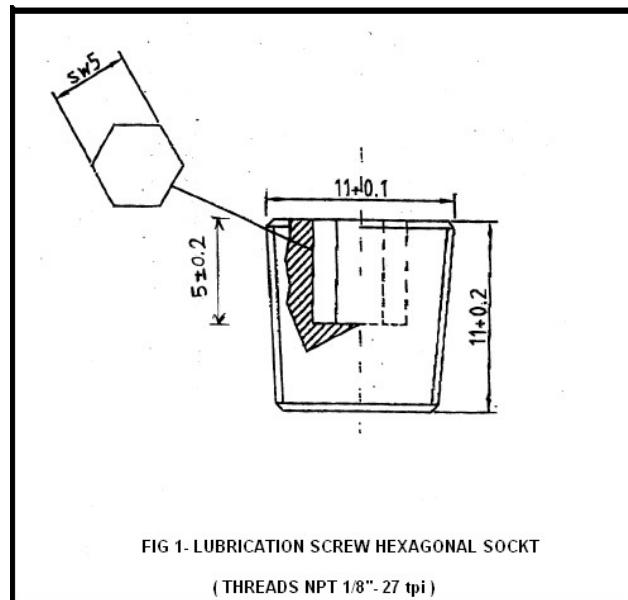


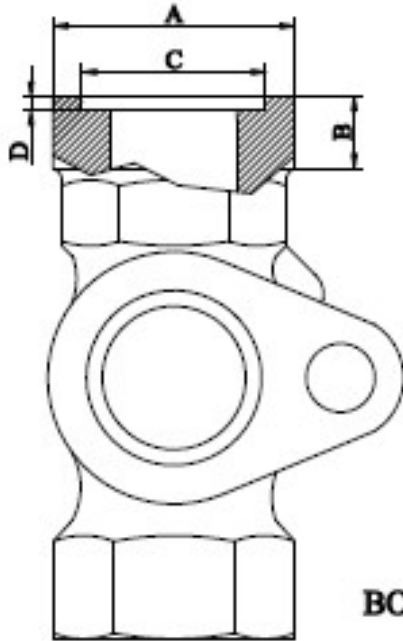
Table 1- Requirements of elastomers for seals

characteristics	requirements	Test parameters	Test method
Visual(general)	Homogeneous, free from porosity, inclusions, grit, blisters and surface imperfections visible with the naked eye.	-----	Visible with - the naked eye
Hardness	change in hardness shall be ± 5 IRHD of the nominal hardness declared by the manufacturer .	Preferably according to the micro-test method	ISO 48 (1994)
compression set	- high temperature : Max 25 % - low temperature : Max 40 % Max 50 %	- At high temperature: 24 hours at 70 ° C - At low temperature 24 hours at -10 ° C or 24 hours at -20 ° C	ISO 815 (1991) Type B
Resistance to lubricants	-change in mass shall be between -10% and +15 % -change in hardness shall be ± 10 IRHD. -no sign of delamination , blistering or deterioration.	Immersion 168 \pm 2 hour in oil No.2(IRM 902) at 70 \pm 2 ° C	ISO 1817 (1999)
Resistance to gas	change in mass: - after immersion shall be between -5% and +10% - after drying shall be between -8 % and +5% - no sign of delamination blistering or significant deterioration.	- Immersion 72 \pm 2 hour at 23 \pm 2 ° C in n-pentane (min 98%) - Drying 168 \pm 2 hour at 40 \pm 2 ° C in an oven	ISO 1817 (1999)
Resistance to ageing	no sign of delamination , blistering or deterioration .	Duration : 168 \pm 2 hour Temp : 70 \pm 2 ° C	Visible with the naked eye
	change in hardness shall not be more than ± 10 IRHD		ISO 48(1994)
Low temperature flexibility test	Sufficient flexibility and no sign of delamination , blistering or significant deterioration.	Duration : 1 hour Temp : -29 \pm 1 ° C	Visible with the naked eye

ANNEX 1

INFORMATIVE

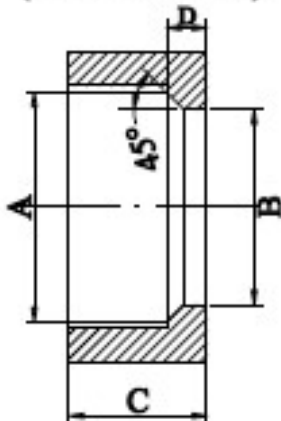
Dimensions (mm) for meter stop valve



BODY		A	B	C	D	UNIT
SIZE VALVE	3/4"	M 42*2	12 +2	32±0.1	2.3±0.3	MM
	1"	M50*2	15 +2	38.5±0.2	3+0.2	MM

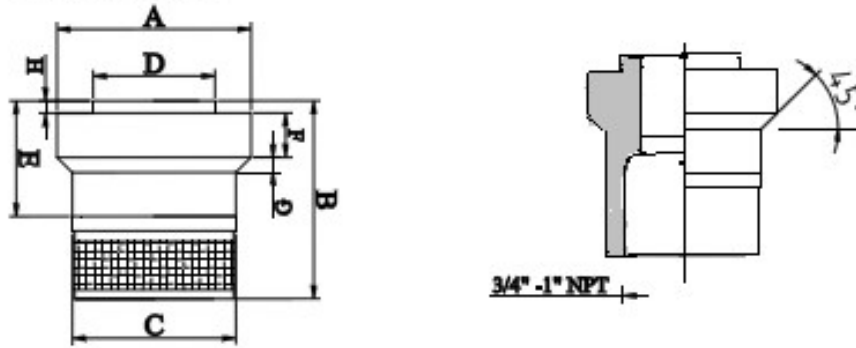
BODY 3/4-1 "

**CAST IRON NUT
(VALVE 3/4"-1")**



CAST IRON NUT		A	B	C	D	UNIT
SIZE VALVE	3/4"	M 42*2	35 ±0.5	24±1	7 +0.5	MM
	1"	M50*2	41.5±0.2	28+1	7 +0.5	MM

**INSULATING CARBON STEEL
HALF UNION 3/4-1"**



INSULATING		A	B	C	D	E	F	G	H	UNIT
SIZE	3/4"	39.5-1	40+1	33.3+0.1	24.8+0.1	23.5	9+0.2	3	2.5± 0.3	MM
	1"	47+0.1	43.8+1	41+0.1	31.5+0.1	28+0.1	9.5	3	3	MM

ORING 3/4\" -1"



ORING		A	B	UNIT
SIZE VALVE	3/4"	31.5	3.7	MM
	1"	38	4	MM