INTERPLANT STANDARD - STEEL INDUSTRY		
IPSS	**SPECIFICATION FOR CAST IRON GATE VALVE** *(For low pressure fuel gas lines) (First Revision)*	**IPSS:1-06-023-03**
	Corresponding IS does not exist	Formerly : IPSS:1-06-023-95

0. FOREWORD

0.1 This Inter Plant Standard prepared by the Standards Committee on Pipes, Fittings, Valves and Piping Layout, IPSS 1:6 with the active participation of the representatives of all the steel plants and associated organization in the field was adopted in August 2003.

0.2 This IPSS Standard was first published in the year 1995. Now this Standard has been revised to incorporate the changes felt based on the experiences of the plant.

1. SCOPE

1.1 This Standard covers the requirements of rising spindle wedge type gate valves from NB 600-1600 used only for fuel gas lines with double flange ends. The valves can be used only for low pressure fuel gases upto the maximum temperature of 150°C with the working pressure limited to 0.5 kg/cm^2.

2. NOMINAL SIZE

2.1 600, 700, 800, 900, 1000, 1200, 1400 and 1600 mm.

NOTE: Nominal size shall refer the nominal bore of the gas way.

3. ACTUATORS

3.1 If required, these valves shall be procured with the actuators, the types of which shall be specified while ordering.

4. MATERIALS

4.1 Material of various parts shall be as given below :

Sl No	Components	Materials
A	Body	Cast iron (IS:210, FG:260)
B	Bonnet & yoke	Cast iron (IS:210, FG:260)
C	Wedge	Cast iron (IS:210, FG:260)
D	Wedge rings	Stainless steel
E	Seat rings	Integral with CI body/S.S (Renewable)
F	Spindle	Stainless steel (AISI 304/20 Cr.13 of IS:1570 part 5 1985)
G	Gland bush	AISI 304 / AISI 410
H	Back seat bush	AISI 304 / AISI 410
I	Gland packing	Graphited asbestos rope
J	Fasterners	Carbon steel (IS 1363-1984 Class 4.6/4)
K	Hand wheel	Cast iron (IS:210, FG:200)
L	Gasket	C.A.F.
M	Gear & pinion	Carbon steel (IS 2002)
M	Gear housing	Cast iron (IS:210, FG:200)

NOTE: Copper or copper bearing shall not be used for manufacturing of any components/parts of the valve.

5. CONSTRUCTION

5.1 The attachment of the gate with the spindle shall be designed so that there is no failure on this account during operation.

5.2 The spindle shall be of back seating arrangement to provide facility for renewal of gland packing in the open position.

5.3 The flange drilling details shall be as per IS6392:1971(table-5).

5.4 Two flanged holes of 80 mm dia shall be provided on top (on either side) of bonnet for inspection. The inspection hole shall be provided with blank flange.

5.5 Flanged opening of 80 mm dia with blank flange for cleaning/drainage shall be provided at the bottom of the body.

5.6 Forged carbon steel lifting hook for lifting fully assembled valve.

5.7 The spindle shall be made from one piece.

6. DIMENSIONS

6.1 The dimensions of gate valve shall be as per Table-1.

7. TESTING AND INSPECTION

7.1 Pressure Tests

i) Shell Test (Hydrostatic) – Each assembled gate valve in the full open or partly open position shall be subjected to hydrostatic shell test at a pressure of 1.5 times the maximum working pressure or 1 kg/cm^2 whichever is higher for a test duration of 5 minutes and there shall be no leakage when the pressure is applied to one end while other end is blanked. There shall be no air trapped within the valve when pressure is applied. The valve shall be tested before application of any paint.

ii) Seat Test (Hydrostatic) – The seat shall be hydrostatically tested at a maximum working pressure for a test duration of 5 minutes. Pressure shall be applied to each end successively, the other being open to atmosphere. No visible leakage is permitted in seat test by applying soap solution

iii) Seat leakage test (pneumatic) – The seat shall be pneumatically tested at a pressure of 1 kg/cm^2 for a test duration of 5 minutes. The pressure shall be applied to each successively, other being opened to atmosphere. No visible leakage is permitted in seat leakage test by applying soap solution.

7.2 Test Certificates - The manufacturer shall issue test certificates confirming that the valves have been tested in accordance with this standard and stating the actual pressure and medium used in the test.

7.3 Inspection – If Inspection is required, this shall be stated in the enquiry and order. The purchaser or his authorized representative shall have access to the manufacturer's works at all reasonable times to inspect assembled valves according to this order.

8. PAINTING

8.1 The painting shall be done only after testing of valve as per customers' requirement.

9 MARKING

9.1 The valve shall be marked with following information :

a) Manufacturer's name, trade mark, size, class, weight & body material cast on body,
b) IPSS number and individual identificaton along with date of manufacture on non-corrosive plates firmly fitted on suitable place

TABLE 1

DIMENSIONS OF LIGHT TYPE CI GATE VALVE FOR FUEL GAS

(Read along with Fig-1)

(All dimensions in mm)

Nominal size DN	Length L Max	Overall height in open position H max	Dia of the hand wheel D min
600	390	2690	720
700	430	3050	800
800	470	3580	800
900	510	3940	800
1000	550	4240	900
1200	630	5170	1000
1400	710	5700	1200
1600	790	6600	1400

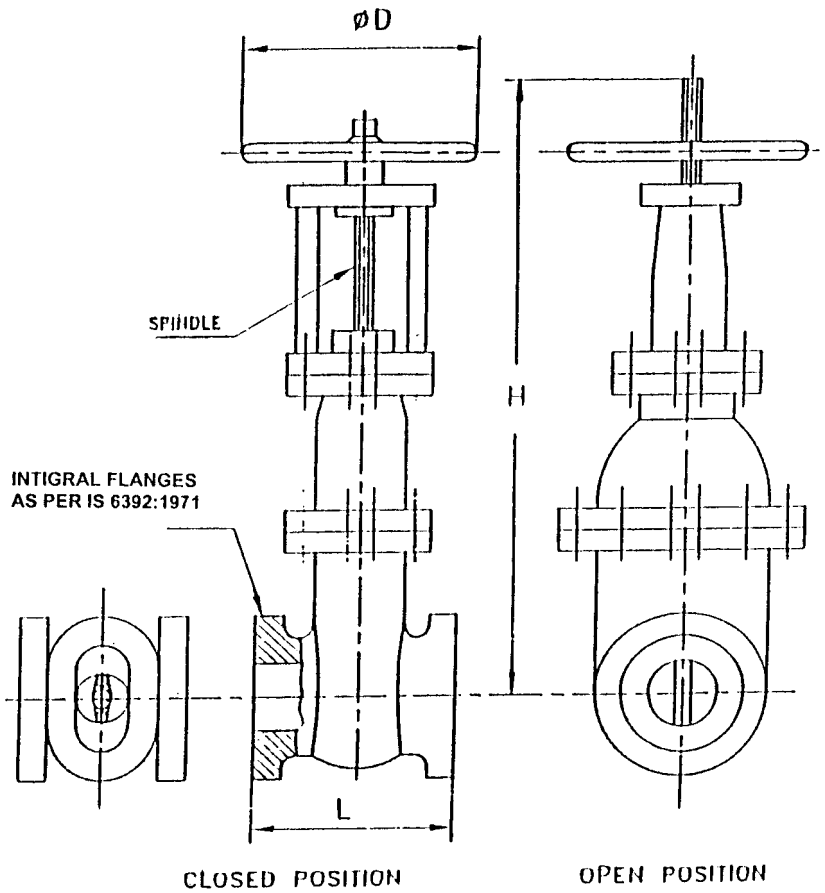

FIG. 1 CAST IRON GATE VALVE FOR LOW PRESSURE FUEL GAS