



شرکت ملی گاز ایران

National Iranian Gas Co.

مدیریت پژوهش و فناوری

Research and Technology Management

امور تدوین استانداردها

Standardization Division

IGS

Iranian Gas Standards

مشخصات فنی خرید

شیرهای توپکی کلاس ۳۰۰

Ball Valves Class Rating :300 part(2)

FOREWORD

This standard is intended to be mainly used by **NIGC** and contractors and has been prepared on interpretation of recognized standards , technical documents , knowledge ,backgrounds and experiences in gas industries at national and international levels.

Iranian Gas Standards (**IGS**) are prepared , reviewed and ammended by technical standard committees within NIGC Standardization Div. and submitted to the **NIGC's "STANDARDS COUNCIL"** for approval .

IGS Standards are subject to revision , amendment or withdrawal , if required , thus the latest edition of **IGS** shall be checked/inquired by **NIGC** users .

This standard must not be modified or altered by the end users within **NIGC** and her contractors. Any deviation from normative references and/or well known manufacturers specifications must be reported to Standardization div.

Any comments from concerned parties on **NIGC** distributed **IGS** are welcome to technical standards committees and will receive serious attention and consideration should a revision to standards is recommended .

GENERAL DEFINITIONS :

Throughout this standard the following definitions , where applicable , should be followed :

1- "**STANDARDIZATION DIV.**" has been organized to deal with all aspects of industrial standards in NIGC . Therefore , all queries for clarification or amendments are requested to be directed to the mentioned div.

2- "**COMPANY**" : refers to national iranian gas company .

3- "**SUPLIER**" : refers to a firm who will supply the service , equipment or material to igs specification whether as the prime producer or manufacturer or a trading firm .

4- "**SHALL**" : is used where a provision is mandatory.

5- "**SHOULD**" : is used where a provision is advised only.

6- "**MAY**" : is used where a provision is completely discretionary.

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SPCIFICATION FOR BALL VALVES,

FLANGED ENDS, CLASS 300,

SIZE : 2-6 IN.

BALL VALVE, FOR GAS DISTRIBUTION AND TRANSMISSION PIPELINE
CARBON STEEL, FLANGED ENDS, R.F., C.S.F. , CLASS 300, WRENCH OPER-
ATED .

ANTI STATIC DESIGN, DOUBLE BLOCK AND BLEED FACILITY IN OPEN
AND CLOSE POSITION, WITH SEALANT INJECTION SYSTEM.

FIRE SAFE TO API RP 6F OR API 607 OR B.S. 5146.

STEM SHALL BE OF THE ANTI BLOW OUT TYPE WITH AT LEAST TWO
OR MORE STEM SEAL IN THE DESIGN, TOP SEAL SHALL BE EASILY REPL-
ACEABLE UNDER PRESSURE.

VALVE SHALL BE FURNISHED WITH A VALVE POSITION INDICATOR,
SHOWING OPEN POSITION IN THE DIRECTION OF FLOW AND CLOSE POSI-
TION PERPENDICULAR TO DIRECTION OF FLOW, THE SHUT AND OPEN
TERMS(IN ENGLISH) SHALL BE PERMANTLY INDICATED IN A VISIBLE LOCATION

DESIGN, DIMENSIONS, TESTING AND MARKING ALL ACC. TO API 6D
LATEST EDITION .

- 3/ IN CASE OF REDUCED BORE ,PORT AREA SHALL BE SPECIFIED
BY MANUFACTURER.
- 4/ WRENCH SHALL BE QUOTED SEPARATELY.

تاریخ تائید : در کمیته تخصصی لوله ، اتصالات و شیرآلات مورخ
تاریخ تصویب : در کمیته عالی استاندارد مورخ

RADIOGRAPHY: ALL VALVES ENDS IN 5 PERCENT OF EACH INDIVIDUAL ORDER SHALL BE 100 PERCENT RADIOGRAPHED FOR A LENGTH AT LEAST TWICE OF THE THICKNESS OF THE VALVE BODY.

ACCEPTANCE SHALL BE LEVEL 1,2,3 ACC.TO ASTM E446.

FULL BORE:

<u>SIZE</u> (IN)	<u>END</u> (IN)	<u>TO</u>	<u>END</u> (MM)
2	8 1/2		215.9
3	11 1/8		282.5
4	12		304.8
6	18		457.2

REDUCED BORE:

<u>SIZE</u> (IN)	<u>END</u> (IN)	<u>TO</u>	<u>END</u> (MM)
2	8 1/2		215.9
3	11 1/8		282.5
4	12		304.8
6	18		457.2

NOTES:

- 1/ MAX. REQUIRE OPENING TORQUE SHALL BE 32 KG-M UNDER MAX. CLASS RATING PRESSURE.
- 2/ FOR BURRIED TYPE ,STEM EXTENSION SHALL BE SPECIFIED BY END USER.

MATERIAL:

BODY, COVER AND BONNET: CAST CARBON STEEL AT LEAST TO ASTM A216 GRADE WCB/WCC OR TO B.S. 1504-161 GRADE 430/480 ,OR FORGED CARBON STEEL AT LEAST TO ASTM A105 OR B.S. 1503 GRADE 221/550 , OR CARBON STEEL PLATE AT LEAST TO ASTM A 516 GR.70.

BALL : CAST CARBON STEEL AT LEAST TO ASTM A216 GRADE WCB/WCC. OR TO B.S.1504 -161 GRADE 430/480 ,OR FORGED CARBON STEEL TO ASTM A 105 OR B.S. 1503 GRADE 221/550 .

BALL SHALL BE HARD CHROMIUM OR ELECTROLESS NICKEL PLATED WITH FINAL MIRROR FINISH PREPARATION AND MIN. PLATING THICKNESS OF 25 μ M ACC. TO ASTM B 650 AND B 656 RESPECTIVELY.

STEM : SHALL BE FORGED CARBON STEEL AT LEAST TO ASTM A105 OR B.S. 1503 GRADE 221/550 ,OR BAR ALLOY STEEL AT LEAST TO AISI 4140 WITH HARD CHROMIUM OR ELECTROLESS NICKEL PLATING .

NON- METALLIC PARTS: O-RING AND SOFT SEATS SHALL BE MADE OF SUITABLE ELASTOMER FLURO- CARBON MATERIAL (TYPE AND RELEVANT STANDARD SHALL BE SPECIFIED BY MANUFACTURER).

VALVE EXTERNAL SURFACE SHALL BE PAINTED ACC .TO MANUFACTURING STANDARD.

(TECHNICAL DETAILS SHALL BE PROVIDED BY MANUFACTURER).

SPECIFICATION FOR BALL VALVES,

WELDING ENDS, CLASS 300 ,

SIZE:2 - 6 IN

BALL VALVE, FOR GAS DISTRIBUTION AND TRANSMISSION PIPE-
LINE, CARBON STEEL , BUTT WELDING ENDS, CLASS 300 , WRENCH OP-
ERATED.

BODY SHALL BE ALL WELDED TYPE, ANTI STATIC DESIGN.
STEM SHALL BE OF THE ANTI BLOW OUT TYPE WITH AT LEAST TWO
OR MORE STEM SEALS IN THE DESIGN , TOP SEAL SHALL BE EASILY
REPLACEABLE UNDER PRESSURE.

ALL VALVES SHALL BE FURNISHED WITH A VALVE POSITION IND-
ICATOR, SHOWING OPEN POSITION IN THE DIRECTION OF FLOW AND
CLOSE POSITION PERPENDICULAR TO DIRECTION OF FLOW, THE SHUT
AND OPEN TERMS(IN ENGLISH) SHALL BE PERMANENTLY INDICATED
IN A VISIBLE LOCATION.

DESIGN , DIMENSIONS, TESTING AND MARKING ALL ACCORDING TO
API 6D LATEST EDITION .