

**Ball Valves**

**DAFRAM**

*Made in Italy - Europe*



## COMPANY PROFILE

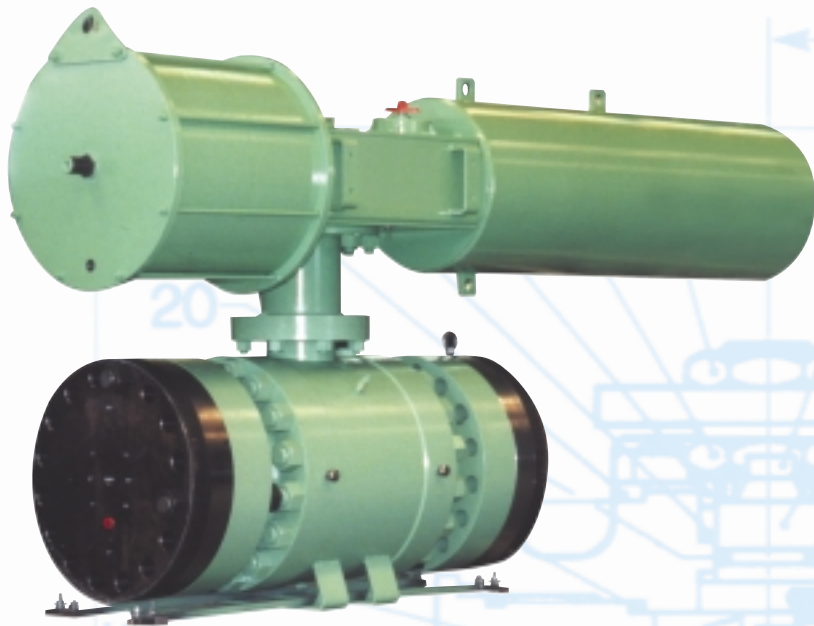
DAFRAM S.p.A., founded in 1956, was the first company to manufacture ball valves in Italy. The experience and recognition gathered during its long activity ensures that DAFRAM is one of the most famous and competitive companies all over the world producing ball valves. DAFRAM's commercial (sales) and administrative offices are based in Milan, Viale Monte Nero n.17, CAP 20135.

The workshop, quality assurance system and laboratories, procurement and technical offices are all located in the same industrial complex in Urbisaglia (Macerata), the centre of Italy. The plant is based on an industrial estate of 25.000 m<sup>2</sup>; 10.000 m<sup>2</sup> of which are covered surface. The workshop consists of an extremely modern workshop and testing centre with technical and engineering offices located on site. The manufacturing process is continually improved and renewed with the most advanced manufacturing technologies, such as: multi-function machining centres and innovative testing equipment for standard pressure tests and for low emission helium tests. Special testing centres are used for testing of all production and specifically for valves in high pressure and big size executions.



# DAFRAM fire- The right high performa applic

DAFRAM S.p.A. is a specialised ball valves for Chemical, Power Generation, OFF with extensive experience in the



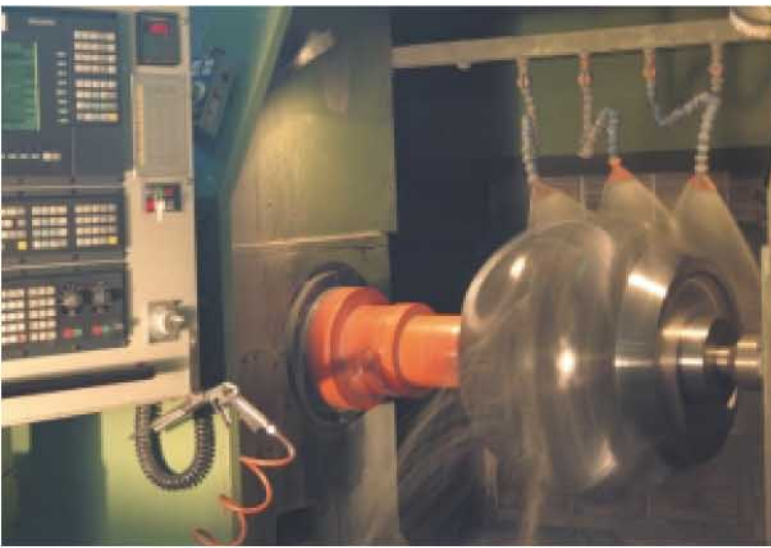
## PRODUCTS AND SERVICES

The range consists exclusively of TOP QUALITY BALL VALVES for high performance and critical applications in FLOATING, TRUNNION MOUNTED and special configurations, size 1/4" to 36", 150lbs to 2500lbs, PN10 to PN400, FULL and REDUCED bore, in Carbon Steel, Stainless Steel, Nickel and exotic alloys, for the following services: Chemical, Petrochemical, Refining, Pharmaceutical, Food industry, Power and co-generation plants, Desalting units, Pulp and Paper industry, Ship building (Chemical, LPG, LNG - DNV, ABS approved), ON-shore & OFF-shore OIL and GAS production, ON-shore OIL and GAS pipelines, OIL and GAS storage, Transportation and Gathering Systems, Gas re-injection plants, Gas treatment plants, LPG and LNG production storage and transportation. Special products covering the entire pressure range are available for use in special services, such as:

- BALL VALVES with PTFE STEM PACKING for AGGRESSIVE CHEMICAL SERVICE without O-RINGS in TA-LUFT and Fire Safe BS 6755 part 2 executions
- METAL SEATED ball valves for both ABRASIVE and HIGH TEMPERATURE
- CRYOGENIC ball valves with special STEM EXTENSION
- FULLY JACKETED ball valves with oversized flanges
- TOP ENTRY ball valves
- FULLY WELDED ball valves
- LOW EMISSION ball valves, TA-LUFT certified and HELIUM tested both to VACUUM and to SNIFFER methods



## WORKSHOP



Because of continuous product development and modernisation, DAFRAM's workshop is constantly being renewed. It utilises the most advanced manufacturing technologies in valve component machining, drilling and testing.

Eleven modern, computer controlled lathes and seven machining centres ensure complete control over the entire manufacturing process.

Both vertical and horizontal testing machines, as well as two special machines which automatically detect the valves operating torques, allow DAFRAM's production to be 100% tested, controlled and certified before leaving our plant.

Standard testing for every valve is performed according to BS 6755 part 1 (floating ball valves), API 6D (TRUNNION mounted ball valves) and API 598. Other testing specifications or procedures may be followed upon customer request.

The castings used by DAFRAM are produced in sand and with a sophisticated moulding method by an innovative Italian foundry. The "Moulding System Method" used by the foundry, based on a special ceramic process (REPLICAST®), allows DAFRAM to supply high quality cast valves with excellent surface finishing.

All most important Non Destructive Tests like X-RAYS, Ferrite Content Examination, Magnetic Particles Inspections, DPE & PMI, Corrosion Tests are available upon request.



## QUALITY SYSTEM

DAFRAM Quality system is covered by the following certificates:

- ISO 9001:94 by RINA, cert. N. 4/89
- API Spec. Q1

DAFRAM design and production processes are covered by the following certificates:

- API 6D, License N. 0265
- PED 97/23/EC by Bureau Veritas, cert. N. CE-PED-H-DAF001-01-ITA
- AD-MERKBLATT W0 / TRD 100 / HP 0 by TÜV, cert. N. 112309
- TA-Luft by TÜV, cert. N. 922-960157

DAFRAM valves are pressure tested according to:

- API 6D
- API 598
- BS 6755 Part 1

and Fire Safe tested and certified according to:

- API 607 4th Edition
- BS 6755 Part 2

# safe ball valves choice for process and critical applications

manufacturer of High Performance  
Petrochemical, Oil & Gas,  
and ON-SHORE services  
most advanced sealing technologies



# FLOATING BALL VALVES



## ANSI EXECUTION

TYPE	CLASS	BORE	CONSTR.
150MC	150lbs	Reduced	1pc Insert Body
150RC	150lbs	Reduced	2pcs Split Body
150TC	150lbs	Full	2pcs Split Body
150TM	150lbs	Full	2pcs Split Body
300MC	300lbs	Reduced	1pc Insert Body
300RC	300lbs	Reduced	2pcs Split Body
300TM	300lbs	Full	2pcs Split Body
600R	600lbs	Reduced	2pcs Split Body
600T	600lbs	Full	2pcs Split Body
900R	900lbs	Reduced	2pcs Split Body
900T	900lbs	Full	2pcs Split Body
1500R	1500lbs	Reduced	2pcs Split Body
1500T	1500lbs	Full	2pcs Split Body
2500R	2500lbs	Reduced	2pcs Split Body
2500T	2500lbs	Full	2pcs Split Body

## SPECIAL EXECUTION

TYPE	CLASS	BORE	CONSTR.	NOTES
THREE WAYS				
S3VP	150lbs	Full	SPLIT BODY	120° CONN
S3VE	PN16	Full	SPLIT BODY	120° CONN
S3VT	300lbs	Full	SPLIT BODY	120° CONN
S3VLP	150lbs	Full	SPLIT BODY	90° CONN.
S3VLE	PN16	Full	SPLIT BODY	90° CONN.
S3VLT	300lbs	Full	SPLIT BODY	90° CONN.

## WAFER TYPE - SHORT PATTERN

16STA	PN16	Full	1pc Insert Body	NOT FIRE SAFE
40STA	PN40	Full	1pc Insert Body	NOT FIRE SAFE
150STA	150lbs	Full	1pc Insert Body	NOT FIRE SAFE
300STA	300lbs	Full	1pc Insert Body	NOT FIRE SAFE
16WT	PN16	Full	1pc Insert Body	FIRE SAFE
40WT	PN40	Full	1pc Insert Body	FIRE SAFE

## DIN EXECUTION

TYPE	CLASS	BORE	CONSTR.
16R	PN16	Reduced	1pc Insert Body
16TE	PN16	Full	2pcs Split Body
16TL	PN16	Full	2pcs Split Body
16VK	PN16	Full	2pcs Split Body
16VL	PN16	Full	2pcs Split Body
40R	PN40	Reduced	1pc Insert Body
40ME	PN40	Full	1pc Insert Body
40TE	PN40	Full	2pcs Split Body
40TL	PN40	Full	2pcs Split Body
40VK	PN40	Full	2pcs Split Body
40VL	PN40	Full	2pcs Split Body

## VALVES with NIPPLED AND THREADED ENDS

DAFRAM's NIPPLED AND THREADED ENDS ball valves figures are defined by the following "fields":

FIGURE	1st "field"	D	standard
	2nd "field"	class	800, 1500, 3000
	3rd "field"	bore	F = Full / R = reduced
	4th "field"	ends	BW, SW, PE, NPT, BSP, GAS
	5th "field"	optional	3P in case of three piece body
	6th "field"	optional	CRYO = Cryogenic /// HT = High Temperature

Other pressure classes from PN10 to PN40 available upon request

i.e. Ball valve - cl. 800 - Full Bore - one end BW/one end NPT female = D800-F-BW/NPT (if 3 pcs body = D800-F-BW/NPT-3P)

All FLOATING BALL VALVES are manufactured according to BS5351 (API-6D and B16.34 available upon request), and supplied complete of UNI/EN 10204 3.1B certificates showing the materials mechanical and chemical properties plus the pressure tests and any other special tests performed. Tests are carried out as standard to BS 6755 part 1 or according to other international rules upon specific request by the user. All valves are equipped with antistatic device, anti blow-out stem, flanged ends ANSI B16.5 or DIN with different finish: RF, RFS, RTJ or with special finish BW, PE, SW, HUB. Most of the valves are with standard ISO 5211 TOP FLANGE to ensure easy mounting of any actuation system and Fire Safe Certified executions to BS 6755 part 2 and API 607 4th Edition are available for all valves' types; TA-LUFT low emission certificates are available for most common types and executions. Special accessories may be installed on the whole range, such as: Gearboxes, Actuators, Chain Wheels, Locking Devices, Stem extensions for insulation, cryogenic and high temperature service, limit switches, pup pieces, heating jackets.

## FACE TO FACE/END TO END - (mm)

INCHES	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2.1/2"	3"	4"	5"	6"	8"	10"	12"
mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300

### ANSI BALL VALVES

150MC	108	117	127	140	165	178	191	203	229	254	267	292	330	356
150RC					165	178	191	203	229	254	267	292	330	610
150TC						178	191	203	229					
150TM	108	117	127	140	165	203	222	241	305	356	394	457	533	610
300MC	140	152	165		190	216	241	283	305	381	403	419	457	502
300RC						216	241	283	305	381	403	419	457	502
300TM	140	152,5	165		190	216	241	283	305		403	502	568	648
600R					241	292	330	356	432		559	660		
600T	165	190	216		241	292	330	356	432		559			
900R-RF					305	368								
900R-RJ					305	371								
900T-RF	216	229	254	280	305	368								
900T-RJ	216	229	254	280	305	371								
1500R-RF					305	368								
1500R-RJ					305	371								
1500T-RF	216	229	254	280	305	368								
1500T-RJ	216	229	254	280	305	371								
2500R-RF					384	451								
2500R-RJ					384	454								
2500T-RF					384	451								
2500T-RJ	264	273	308		384									
150STA	35	39	45	50	60	72	95	116	140		210			
300STA	35	39	45	50	60	72	95	116	140		210			

### DIN BALL VALVES

16R	115	120	125	130	140	150	170	180	190	325	350	400	450	
16TE	115	120	125		140	150	170	180	190	325	350	400	450	
16TL	130	150	160	180	200	230	290	310	350	400	480	600	730	
16VK	115	120	125	130	140	150	170	180	190					
16VL	130	150	160	180	200	230	290	310	350					
40R	115	120	125	130	140	150	170	180	190	325	350	400	450	
40ME	115	120	125	130										
40TE	115	120	125		140	150	170	180	190	325	350	400	450	
40TL	130	150	160	180	200	230	290	310	350	400	480	600	730	
40VK	115	120	125	130	140	150	170	180	190					
40VL	130	150	160	180	200	230	290	310	350					
16STA	35	39	45	50	60	72	95	116	140					
40STA	35	39	45	50	60	72	95	116	140					
16WT							100	125	155	200	234	310		
40WT	41	42	50	52	67	80								

### 3-WAY BALL VALVES

S3VP-E (*)	90	90	90	95	111	120	140	150	165	180	215	248	310	
S3VT (*)	90	100	102		125	135	170	178,5	194,5		236	315		
S3VLP-E (**)	122-100	122-100	122-100		169-155	160-160	175-175	195-195	215-215	245-245	285-285	335-335	405-405	
S3VLT (**)	122-100	132-100	132-106		180-150	180-170	220-200	230-230	265-265		315-315	405-370		

### NIPPLED AND THREADED ENDS BALL VALVES

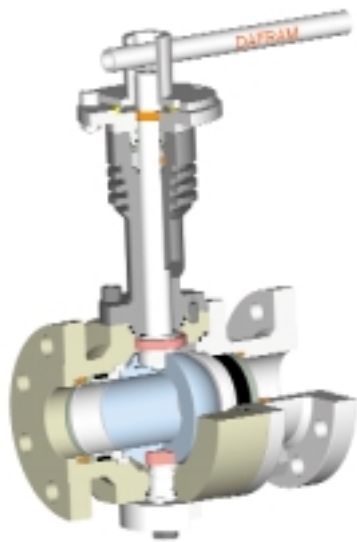
D60N (***)	75	85	95	110	120	135								
D80N (***)	65	75	85	105	120	130								

GEAR operator is suggested for these diameters

(\*) THE VALUE GIVEN IS: DISTANCE BETWEEN CENTER VALVE AND BODY CONNECTOR FLANGE

(\*\*) THE VALUES GIVEN ARE: DISTANCE BETWEEN ALIGNED FLANGES / ALIGNED FLANGED AXIS AND LATERAL BODY FLANGE

(\*\*\*) THE FACE TO FACE OF NPT VALVES IS INDICATIVE ONLY. IN CASE OF NIPPLED ENDS THESE VALVES ARE SUPPLIED WITH NIPPLES 100mm LONG

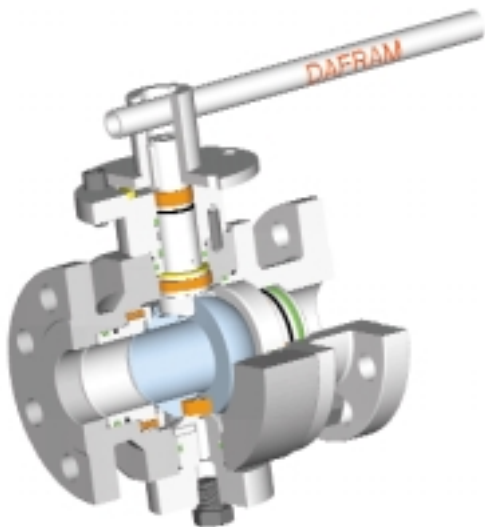


### METAL SEATED BALL VALVES for: HIGH TEMPERATURE SERVICE

The DAFRAM ball valve range (cl. 150lbs to 2500lbs / PN10 to PN400 - from 1/4" to 36") is available in METAL seated design for HIGH TEMPERATURE SERVICE up to +400°C, equipped with specially designed stem extensions in FLOATING BALL and TRUNNION MOUNTED execution. Basic standards are : API, ANSI, DIN  
Depending on the service required, different surface treatments are available on ball and seat rings, such as : Tungsten Carbide Coating (WC) and Chromium Carbide Coating (CrC).  
Different materials are available to suit the most common applications.

DAFRAM has conducted laboratory tests at high temperature on different prototypes.

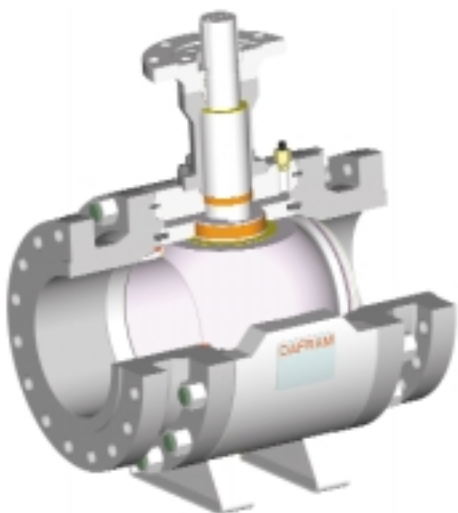
DAFRAM laboratories are equipped to test the valves with gas at the temperature and pressure of the actual service conditions. Cycling tests as well as leakage tests to the environment or through the seats may be performed, upon request, with gas at high pressure and high temperature conditions.



### METAL SEATED BALL VALVES for: ABRASIVE SERVICE

The DAFRAM ball valve range (cl. 150lbs to 2500lbs / PN10 to PN400 - from 1/4" to 36") is available in METAL to METAL seated design for ABRASIVE SERVICE in FLOATING BALL and TRUNNION MOUNTED execution.

Basic standards are : API, ANSI, DIN  
Depending on service conditions required different surface treatments are available on ball and seat rings, such as : Tungsten Carbide Coating (WC) and Chromium Carbide Coating (CrC) while a special hardening process (DAFRADUR) has been specially developed for abrasive conditions.  
Different materials are available to suit the most applications.



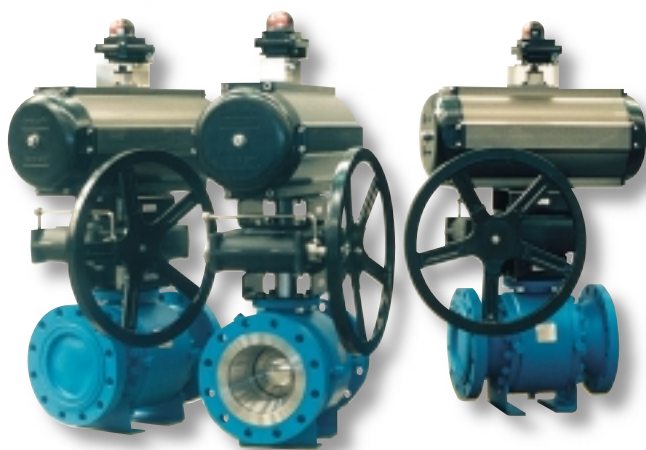
### CRYOGENIC BALL VALVES

The DAFRAM ball valve range (cl. 150lbs to 2500lbs / PN10 to PN400 - from 1/4" to 36") is available in special design for CRYOGENIC use for service temperatures from -196°C up to 150°C, in FLOATING BALL and TRUNNION MOUNTED, Double Block and Bleed, with SELF RELIEVING facility for normal uses and for dangerous expanding fluids (LPG).

Basic standards are : API, ANSI, DIN  
Depending on the service conditions and on the lowest working temperature DAFRAM's CRYOGENIC ball valves are assembled with special stem extensions (vapour space to SHELL 77/200) and in Fire Safe design. Different materials are available to suit the most common applications, such as:

- ASTM A350 gr. LF2,
- ASTM A352 gr. LCC,
- ASTM A182 gr. F316(L),
- ASTM A351 gr. CF8M/CF3M

Special alloys are available upon specific request.



### ACTUATED BALL VALVES

The DAFRAM ball valves are supplied with standard manual operators :

- Levers / Hand Wheel Worm Gear Operators

All valves are designed with standard TOP FLANGE ISO 5211 for easy mounting of any of the most advanced remote actuating systems, such as :

- ELECTRIC MOTOR OPERATORS for MOV service,
- PNEUMATIC and HYDRAULIC Actuators for regular ON-OFF service or for continuous cycling
- PNEUMATIC and HYDRAULIC Actuators for EMERGENCY SHUT DOWN (ESD) services

Specific manuals have been developed for the sizing of any actuation systems and special equipments are used for the detection of the valves torque upon delivery.

Assembling and functional pressure tests are carried out in DAFRAM's own testing workshop with the most advanced actuation and control facilities.

## BALL VALVES FOR: UNDERGROUND SERVICE - GAS DISTRIBUTION

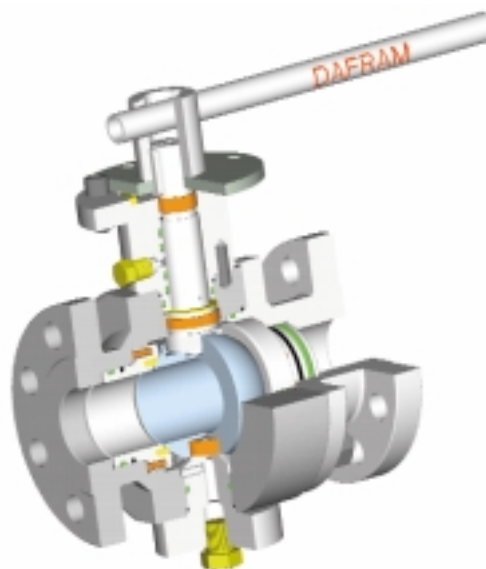
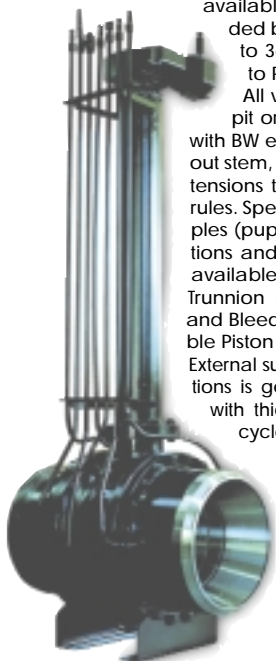
Special valves for UNDERGROUND SERVICE are manufactured by DAFRAM for GAS DISTRIBUTION services.

Depending on the specific case, DAFRAM's valves are designed acc. To API6D, BS5351, ASME B16.34 and UNI-CIG 9734 - D.M. 24/11/84, and available with bolted, seal welded or fully welded bodies, Full and Reduced Bore, from 1" up to 36", body ratings 150lbs to 2500lbs / PN10 to PN400.

All valves may be supplied for installation in pit or buried, Floating and Trunnion Mounted with BW ends according to ASME B16.25, anti blow out stem, antistatic device, equipped with stem extensions to the main international standards and rules. Special executions with welded on pipe nipples (pup pieces), special purging bleed connections and stem extensions of specific lengths are available upon request.

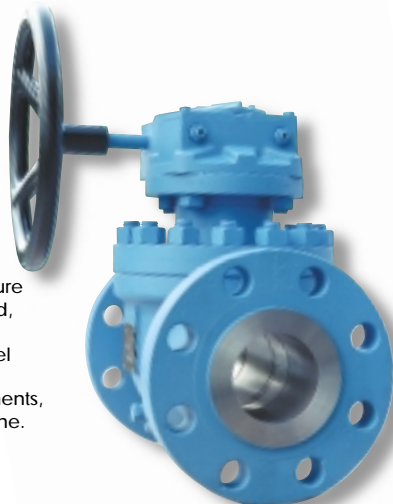
Trunnion Mounted Ball Valves are Double Block and Bleed to API-6D and with Self Relieving or Double Piston effect seats.

External surface protection for underground applications is generally given by Epoxidic Resin Coating with thickness 100µm to 1500µm. Other painting cycles may be performed upon request.



### TOP ENTRY BALL VALVES

Upon request DAFRAM can manufacture valves, Floating and Trunnion mounted, cl. 150lbs to 2500lbs / PN10 to PN400, Carbon Steel, Stainless Steel and Nickel alloys in TOP ENTRY design for easy maintenance on the internal components, without removing the valve from the line.



### BALL VALVES for: FUGITIVE EMISSIONS

The DAFRAM ball valve range may be supplied with special stem extensions to reduce the fugitive emissions to the environment and equipped with stem leakage detection plugs.

Most of the standard valves are TA-LUFT certified while special executions may be tested and certified with Helium tests according to the following methods:

- Quantitative: VACUUM - ASME V Art. 10 App. V par. 1062.2 (Hood Technique) for leakage of 1x10<sup>-6</sup> mBar x L / sec. (this test is able to quantify the leak entity);
- Qualitative: SNIFFER METHOD - ASME V Art. 10 Par. 1000 "Detector Probe Technique" - for leakage of 1 x 10<sup>-6</sup> mBar x L / sec. (this test is able to verify if the sniffer detects a leak within its sensitivity range). Both tests are carried out at the DAFRAM quality laboratory by our Level 2, ASNT TC-1A: 2001 Qualified Inspectors.

## SELECTION OF MAIN MATERIALS

Part name	Standard Carbon Steel	Standard Low Temperature Carbon Steel	Standard Stainless Steel	Standard 22Cr Duplex and 25Cr Super Duplex Alloys	6Mo
ABBREVIATION	CS	LTCS	SS	DUP & S./DUP	SMO
BODY and CONNECTOR	ASTM A216 gr. WCB ASTM A105 - A105N	ASTM A352 gr. LCC ASTM A350 gr. LF2	ASTM A351 gr. CF8M ASTM A351 gr. CF3M ASTM A182 gr. F316 ASTM A182 gr. F316L	ASTM A890 gr. 4A ASTM A890 gr. 5A ASTM A182 gr. F51 ASTM A182 gr. F53 or F55	ASTM A351 CK3MCuN ASTM A182 gr. F44
BALL	ASTM A351 gr. CF8M / CF3M ASTM A216 gr. WCB + ENP ASTM A352 gr. LCC + ENP ASTM A182 gr. F316 / 316L ASTM A105 - A105N + ENP ASTM A350 gr. LF2 + ENP	ASTM A351 gr. CF8M / CF3M  ASTM A352 gr. LCC + ENP ASTM A182 gr. F316 / 316L  ASTM A350 gr. LF2 + ENP	ASTM A351 gr. CF8M / CF3M ASTM A890 gr. 5A ASTM A182 gr. F316 / 316L ASTM A182 gr. F51	ASTM A890 gr. 4A ASTM A890 gr. 5A ASTM A182 gr. F51 ASTM A182 gr. F53 or F55	ASTM A351 CK3MCuN ASTM A182 gr. F44
STEM	ASTM A182 gr. F316 / 316L ASTM A182 gr. F51 ASTM A105 - A105N + ENP ASTM A350 gr. LF2 + ENP ASTM A546 gr.630 (17-4-Ph) AISI 4140 + ENP	ASTM A182 gr. F316 / 316L ASTM A182 gr. F51 ASTM A350 gr. LF2 + ENP ASTM A546 gr.630 (17-4-Ph) AISI 4140 + ENP	ASTM A182 gr. F316 / 316L ASTM A182 gr. F51	ASTM A182 gr. F51 ASTM A182 gr. F53 or F55	ASTM A182 gr. F44
SEAT/INSERT	PTFE, PTFE+15%GF, PTFE+25%GF, PTFE+50%SS, PTFE+20%Carbon+5%Grafite, NYLON, PEEK, KEL-F, VITON				
SPRINGS (Trunn.)	INCONEL X-750 - INCONEL 625				
FIRE SAFE SEALS	EXPANDED GRAPHITE				
BOLTS	ASTM A193 B7/ A194-2H ASTM A193 B7M/ A194-2HM	ASTM A320 L7/ A194 Gr.7 ASTM A320 L7M/ A194 Gr.7M	ASTM A193 B8/ A194-8 ASTM A193 B8M/ A194-8M ASTM A320 L7/ A194 Gr.7 HDG	ASTM A193 B8/ A194-8 ASTM A320 L7/ A194 Gr.7 HDG	ASTM A193 B8/ A194-8 ASTM A320 L7/ A194 Gr.7 HDG

■ CAST ALLOY ■ FORGED or BAR STOCK

Other materials normally used : ASTM A182 gr. F6a cl. 2, ASTM A743 gr. CA15, Nickel Alloy 625 ASTM B564 UNS N06625, Nickel Alloy 625 ASTM A494 gr. CW-6MC, Titanium B348 gr. 2/5/7/11

ENP = Electroless Nickel Plating 30mic or 75mic

Other alloys available upon specific request.





## SALES NETWORK

MILANO - ITALY: DAFRAM HEAD OFFICE  
 URBISAGLIA - ITALY: MANUFACTURING PLANT

### EUROPE

BELGIUM  
 CZECH REPUBLIC  
 DENMARK  
 FRANCE  
 GERMANY  
 HOLLAND  
 LATVIA  
 NORWAY  
 PORTUGAL  
 SPAIN  
 SWEDEN  
 UNITED KINGDOM

AARTSELAAR  
 CHOEN  
 ESBJERG  
 PARIS  
 KOELN  
 ROTTERDAM  
 RIGA  
 OSLO  
 LISBON  
 BARCELONA  
 STOCKHOLM  
 MILDENHALL

### MIDDLE EAST

EGYPT  
 KUWAIT  
 OMAN  
 QATAR  
 U.A.E.  
 U.A.E.

CAIRO  
 KUWAIT CITY  
 MUSCAT  
 DOHA  
 ABU DHABI  
 DUBAI  
 MELBOURNE  
 SEOUL  
 KUALA LUMPUR  
 SINGAPORE  
 CALGARY  
 MEXICO CITY  
 NEW YORK

### FAR EAST

AUSTRALIA  
 KOREA  
 MALAYSIA  
 SINGAPORE  
 CANADA  
 MEXICO  
 U.S.A.

### AMERICA

## MAIN REFERENCES

A.P.I.  
 ABB  
 ABB OFFSHORE SYSTEMS  
 ADCO  
 AGIP  
 AKZO NOBEL  
 ARAMCO  
 ATOFINA  
 BASSELL  
 BASF  
 BAYER  
 BELAIM PETROLEUM Co. (PETROBEL)  
 BRITISH PETROLEUM - BP  
 CIBA SPECIALITES CHIMIQUES  
 CONDEA  
 DE SMETS ENGINEERING  
 DEGUSSA  
 E.N.PPI.  
 ELF / ELF ATOCHEM  
 ENEL  
 ENICHEM  
 EUROPEAN VINYL CORPORATION (E.V.C.)  
 FOSTER WHEELER

HAMWORTHY KSE  
 HENKEL  
 HÖCHST  
 HYUNDAI HEAVY INDUSTRIES  
 INSTROMET  
 ITALGAS  
 KRUPP ÜHDE  
 KUWAIT OIL COMPANY (K.O.C.)  
 LASMO OIL COMPANY  
 LINDE IMPIANTI ITALIA  
 LONZA / LONZA WERKE  
 MAERSK OIL DENMARK  
 NAPHTACHEMIE  
 NATIONAL IRANIAN OIL COMPANY (N.I.O.C.)  
 NATO / NATO NORWAY  
 NORSK HYDRO  
 NOYVALLESINA ENGINEERING  
 OIL AND NATURAL GAS CORP. (O.N.G.C.)  
 OILTANKING  
 PETROLEUM DEVELOPMENT of OMAN (PD.O.)  
 POLIMERI EUROPA  
 PRAOIL  
 PROGETTI EUROPA & GLOBAL

PROVIRON  
 QATAR PETROLEUM  
 RADICI GROUP  
 SARAS RAFFINERIE  
 SASOL  
 SIRTEC NIGI  
 SNAM  
 SNAMPROGETTI  
 SNAMPROGETTI SUD  
 SOLVAY  
 STATOIL NORWAY  
 TECHNIP FRANCE  
 TECHNIP GEOPRODUCTION MALAYSIA  
 TECHNIP ITALY  
 TECNIMONT  
 TECNIPETROL  
 TOYO ENGINEERING CORPORATION  
 TRACTEBEL ENERGY ENGINEERING  
 UCB CHEMICALS  
 UNION CARBIDE  
 UNION MINIERE  
 UOP  
 WÄRTSILÄ FINLAND OY



# DAFRAM

S.p.A.  
 VALVOLE A SFERA - BALL VALVES

Administration and Commercial Office  
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