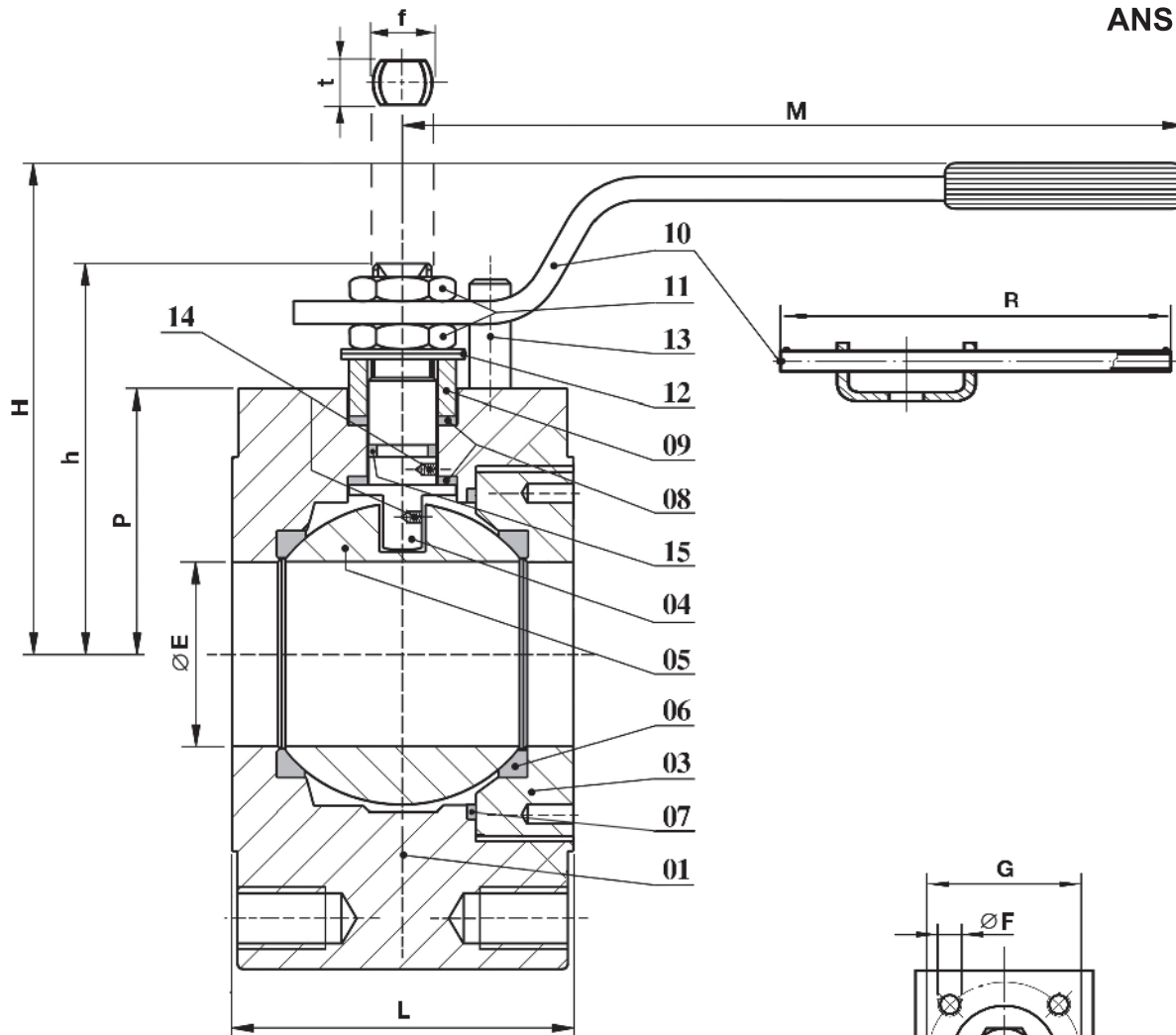


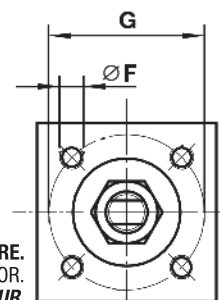
BALL VALVES FULL BORE

ALFA 10N

PN 10 - 40
ANSI 150



ACCOPPIAMENTO VALVOLA / ATTUATORE.
COUPLING VALVE / ACTUATOR.
ACCOMPLEMENT VANNE / ACTIONNEUR.
ANTRIEB / KUGELHAHN KUPPLUNG.



ISO 5211

DIMENSIONI - DIMENSIONS - DIMENSIONS - ABMESSUNGEN

DN	10	15	20	25	32	40	50	50	65	80	100	100	125	150	200
Ø"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2"	2.1/2"	3"	4"	4"	5"	6"	8"
ØE	14	14	19	24	29	38	48	48	64	76	95				
L	36	36	39	43	51	63	70	83	107	120	140				
M / R	150 / -	150 / -	150 / -	185 / -	185 / -	275 / -	275 / -	275 / -	380 / -	380 / -	440/500				
H	84	84	87	95	99	118	126	126	143	149	185				
h	52	52	54	69	72	95	101	101	122	127	151				
P	33	33	36	43	48	63	68.5	68.5	82	88.5	101.5				
f/t	10/6	10/6	10/6	12/8	12/8	16/10	16/10	16/10	22/14	22/14	30/18				
Kg.	1.5	1.5	2	2.7	4	6.5	9	10	17	20.5	31				
ISO 5211	F03	F03	F03	F03	F03	F05	F05	F05	F07	F07	F10				
ØF	M5	M5	M5	M5	M5	M6	M6	M6	M8	M8	M10				
G	36	36	36	36	36	50	50	50	70	70	102				

VEDERE
SEE
VOIR
SIEHE

ALFA 10NF

■ A RICHIESTA - ON REQUEST - A REQUELLE - AUF ANFRAGE

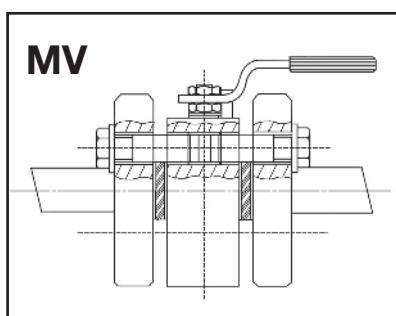
MATERIALI - MATERIALS - MATERIAUX - WERKSTOFFE

01	CORPO	BODY	CORPS	GEHÄUSE	ASTM A105	ASTM A479 F304	ASTM A479 F316
03	CHIUSURA	CLOSURE	EMBOUT	FLANSCHSTUTZEN	ASTM A105	ASTM A479 F304	ASTM A479 F316
04	STELO	STEM	TIGE	SPINDEL	AISI 410	ASTM A479 F316	
05	SFERA	BALL	BOULE	KUGEL	ASTM A479 F304		ASTM A479 F316
06	SEDI	SEATS	SIEGE	SITZRING	P.T.F.E. / R.P.T.F.E.		
07	GUARNIZIONE CORPO	BODY GASKET	ANNEAU	DICHTUNGSRING	P.T.F.E. + GRAF.	P.T.F.E.	
08	BUSSOLA	WASHER	JOINT DE TIGE	SPINDELABDICHTUNG	P.T.F.E. + GRAF.	P.T.F.E.	
09	PREMIGUARNIZIONE	GLAND	PRESSE ETOUPE	STOPFBÜCHSE	CF9SMnPb36 UNI 4838 ZINCATO - GALVANIZED ZINGUE - VERZINKT	ASTM A479 F304	
10	LEVA	LEVER	LEVIER	HANDHEBEL	Fe37 UNI 7070 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
11	DADO / CONTRODADO	NUT / LOCK NUT	ECROU / CONTRE ECROU	MUTTER / KONTERMUTTER	6S UNI 3740 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
12	MOLLE A TAZZA	SPRING WASHER	RONDELLES BELLEVILLE	TELLERFEDER	50CrV4 UNI 3545 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
13	DISPOSITIVO D'ARRESTO	STOP DEVICE	PLOT D'ARRET	ANSCHLAG VORRICHTUNG	8.8 UNI 3740 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
14	DISPOSITIVO ANTISTATICO	ANTISTATIC DEVICE	DISPOSITIF ANTISTATIQUE	ANTISTATISCHE VORRICHTUNG	ASTM A479 F316		
15	O'RING STELO	STEM O'RING	O'RING TIGE	SPINDEL O'RING	VITON		

- ALFA GARANTISCE DAL 1971 UGUALI PARTI DI RICAMBIO.
- ALFA GUARANTEES SPARE PARTS FOR SUPPLIES SINCE 1971.

- ALFA FAIT GARANTIE POUR EGALES PARTIES D'ÉCHANGE DES 1971.
- ALFA GARANTIERT ERSATZTEILE FÜR LIEFERUNGEN SEIT 1971.

Montaggio VITI
Screw mounting
Montage visses
Schrauben montage



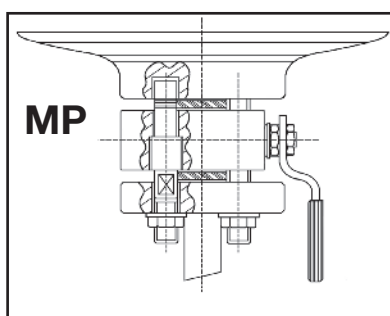
Smontando una delle tubazioni, la valvola RIMANE INSTALLATA e FUNZIONANTE.

Removing the pipe on one side, the valve remains fitted and working.

Demontant d'une part la tuyauterie, la vanne reste installée et fonctionnante.

Der Kugelhahn bleibt installiert und in Betrieb, obwohl man einer der zwei Rohrleitungen abmontiert.

Montaggio PRIGIONIERI
Stay bolt mounting
Montage prisonniers
Stiftschrauben montage



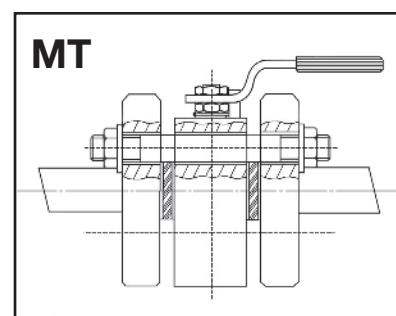
Smontando la tubazione a valle della valvola, questa RIMANE INSTALLATA e FUNZIONANTE.

Removing the lower pipe from the valve, this remains fitted and working.

Demontant la tuyauterie en aval de la vanne, celle-ci reste installée et fonctionnante.

Der Kugelhahn bleibt installiert und in Betrieb, obwohl man ihm von der oberer Rohrleitung abmontiert.

Montaggio TIRANTI
Long bolt mounting
Montage tirants
Stehbolzen montage



Smontando una delle tubazioni, la valvola NON RIMANE INSTALLATA.

Removing the pipe on one side the valve does not remain fitted.

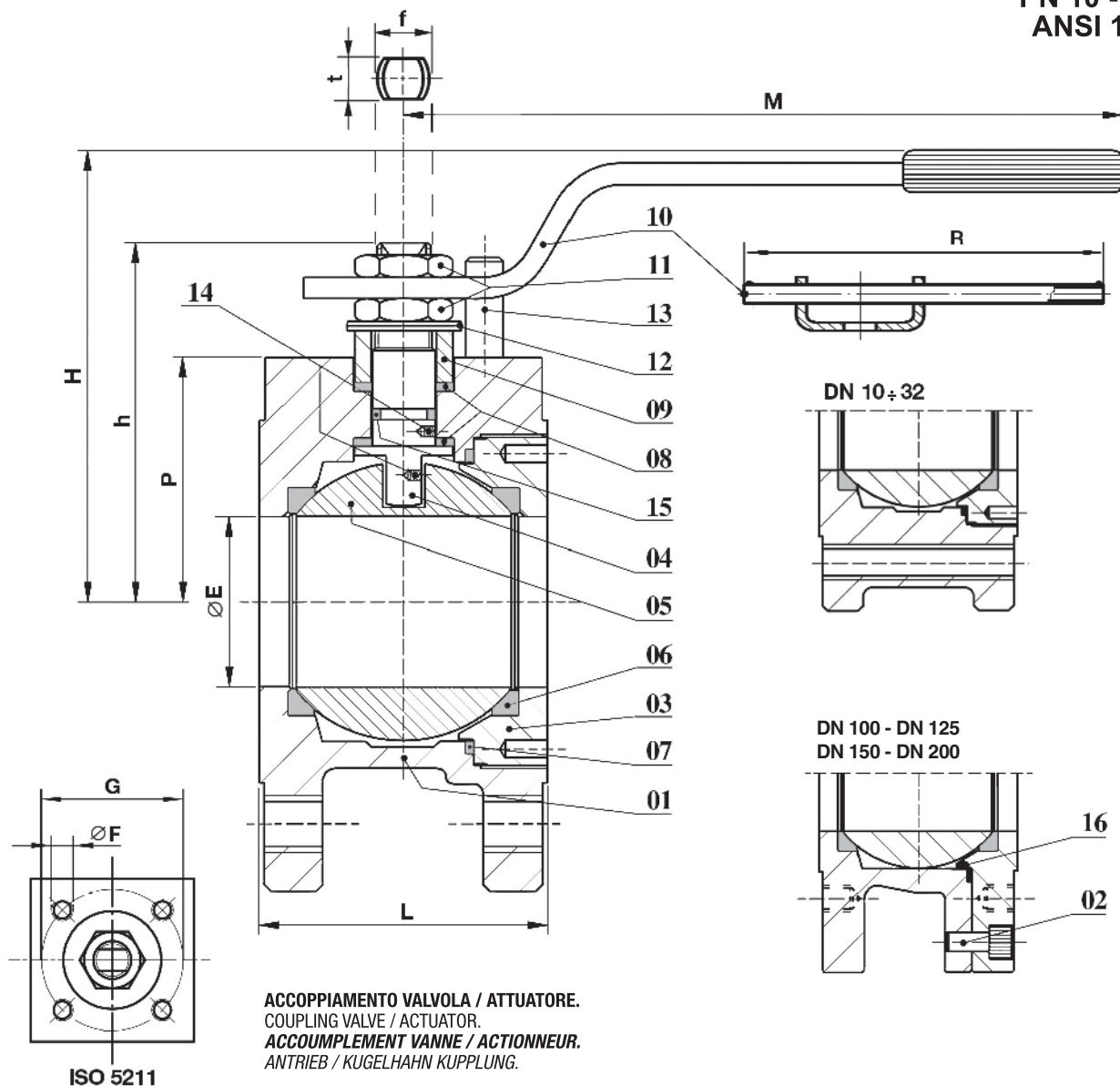
Demontant d'une part la tuyauterie, la vanne ne reste pas installée.

Der Kugelhahn bleibt nicht installiert, wenn man einer der zwei Rohrleitungen abmontiert.

BALL VALVES FULL BORE

ALFA 10NF

PN 10 - 40
ANSI 150



DIMENSIONI - DIMENSIONS - DIMENSIONS - ABMESSUNGEN

DN	10	15	20	25	32	40	50	50	65	80	100	125	150	200
Ø"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2"	2.1/2"	3"	4"	5"	6"	8"
ØE	14	14	19	24	29	38	48	48	64	76	95	118	152	203
L PN10/16														
L ANSI 150	36	36	39	43	51	63	70	83	107	120	152	180	243	314
L PN25/40												210	255	340
M / R	150 / -	150 / -	150 / -	185 / -	185 / -	275 / -	275 / -	275 / -	380 / -	380 / -	440 / 500	440 / 500	- / 800	- / 800
H	84	84	87	95	99	118	126	126	143	149	185	200	273	322
h	52	52	54	69	72	95	101	101	122	127	151	167	220	270
P	33	33	36	43	48	63	68.5	68.5	82	88.5	103	122	153	200
f/t	10/6	10/6	10/6	12/8	12/8	16/10	16/10	16/10	22/14	22/14	30/18	30/18	45/30	52/30
Kg.	1.2	1.2	1.7	2	3	4.5	5	5.8	10	13	22	30	69	132
ISO 5211	F03	F03	F03	F03	F03	F05	F05	F05	F07	F07	F10	F10	F14	F14
ØF	M5	M5	M5	M5	M5	M6	M6	M6	M8	M8	M10	M10	M16	M16
G	36	36	36	36	36	50	50	50	70	70	102	102	140	140

■ A RICHIESTA - ON REQUEST - A REQUELLE - AUF ANFRAGE

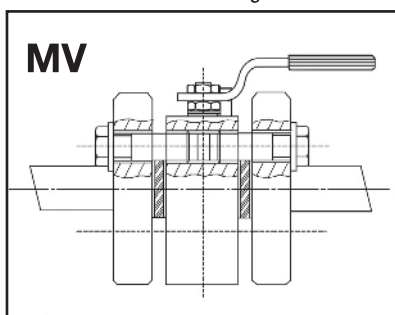
MATERIALI - MATERIALS - MATERIAUX - WERKSTOFFE

01	CORPO	BODY	CORPS	GEHÄUSE	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M
02	VITE	SCREW	VIS	SCHRAUBE	8.8 UNI 3740 ZINCATO - GALVANIZED ZINGUE - VERZINKT	A2-70 UNI 3740	
03	CHIUSURA	CLOSURE	EMBOUT	FLANSCHSTUTZEN	ASTM A105	ASTM A351CF8	ASTM A351 CF8M
04	STELO	STEM	TIGE	SPINDEL	AISI 410	ASTM A479 F316	
05	SFERA	BALL	BOULE	KUGEL	ASTM A479 F304		ASTM A479 F316
06	SEDI	SEATS	SIEGE	SITZRING	P.T.F.E. / R.P.T.F.E.		
07	GUARNIZIONE CORPO	BODY GASKET	ANNEAU	DICHTUNGSRING	P.T.F.E. + GRAF.	P.T.F.E.	
08	BUSSOLA	WASHER	JOINT DE TIGE	SPINDELABDICHTUNG	P.T.F.E. + GRAF.	P.T.F.E.	
09	PREMIGUARNIZIONE	GLAND	PRESSE ETOUPE	STOPFBÜCHSE	CF9SMnPb36 UNI 4838 ZINCATO - GALVANIZED ZINGUE - VERZINKT	ASTM A479 F304	
10	LEVA	LEVER	LEVIER	HANDHEBEL	Fe37 UNI 7070 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
11	DADO / CONTRODADO	NUT / LOCK NUT	ECROU / CONTRE ECROU	MUTTER / KONTERMUTTER	6S UNI 3740 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
12	MOLLE A TAZZA	SPRING WASHER	RONDELLES BELLEVILLE	TELLERFEDER	50CrV4 UNI 3545 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
13	DISPOSITIVO D'ARRESTO	STOP DEVICE	PLOT D'ARRET	ANSCHLAG VORRICHTUNG	8.8 UNI 3740 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
14	DISPOSITIVO ANTISTATICO	ANTISTATIC DEVICE	DISPOSITIF ANTISTATIQUE	ANTISTATISCHE VORRICHTUNG	ASTM A479 F316		
15	O'RING STELO	STEM O'RING	O'RING TIGE	SPINDEL O'RING	VITON		
16	O'RING CORPO	BODY O'RING	O'RING CORPS	GEHÄUSE O'RING	VITON		

- ALFA GARANTISCE DAL 1971 UGUALI PARTI DI RICAMBIO.
- ALFA GUARANTEES SPARE PARTS FOR SUPPLIES SINCE 1971.

- ALFA FAIT GARANTIE POUR EGALES PARTIES D'ECHANGE DES 1971.
- ALFA GARANTIERT ERSATZTEILE FÜR LIEFERUNGEN SEIT 1971.

Montaggio VITI
Screw mounting
Montage visses
Schrauben montage



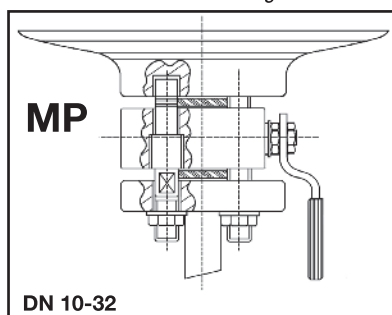
Smontando una delle tubazioni, la valvola RIMANE INSTALLATA e FUNZIONANTE.

Removing the pipe on one side, the valve remains fitted and working.

Demontant d'une part la tuyauterie, la vanne reste installée et fonctionnante.

Der Kugelhahn bleibt installiert und in Betrieb, obwohl man einer der zwei Rohrleitungen abmontiert.

Montaggio PRIGIONIERI
Stay bolt mounting
Montage prisonniers
Stiftschrauben montage



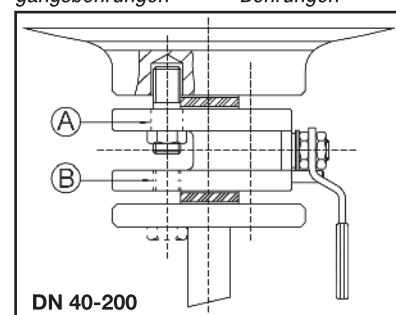
Smontando la tubazione a valle della valvola, questa RIMANE INSTALLATA e FUNZIONANTE.

Removing the lower pipe from the valve, this remains fitted and working.

Demontant la tuyauterie en aval de la vanne, celle-ci reste installée et fonctionnante.

Der Kugelhahn bleibt installiert und in Betrieb, obwohl man ihm von der oberer Rohrleitung abmontiert.

A) Fori LISCI
A) Smooth holes
A) Trous lisses
A) Glatte Durchgangsbohrungen
B) Fori FILETTATI
B) Threaded holes
B) Trous filetés
B) Gewinde Bohrungen



Smontando la tubazione a valle della valvola, questa rimane INSTALLATA e FUNZIONANTE.

Removing the lower pipe from the valve, this remains fitted and working.

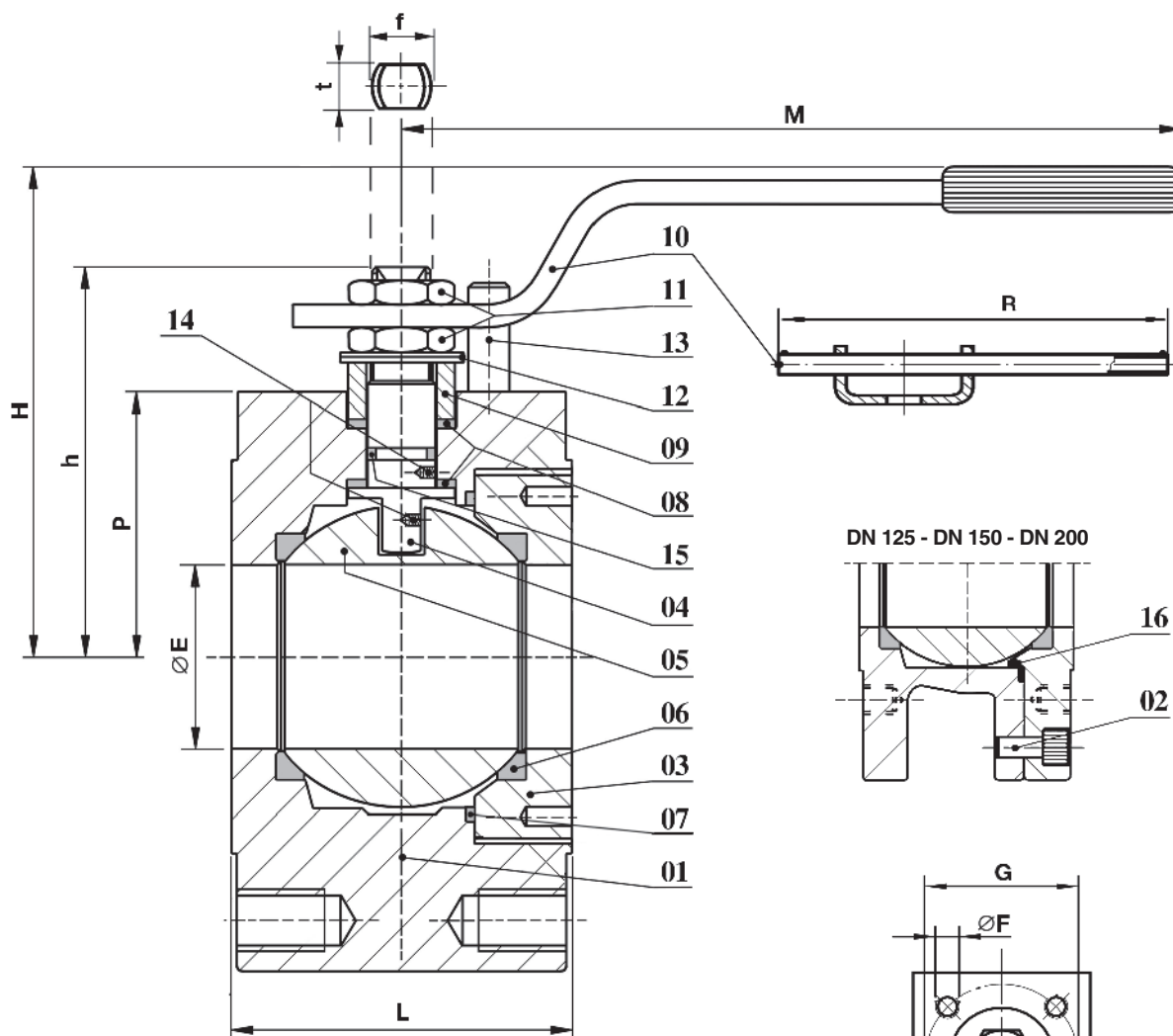
Demontant la tuyauterie en aval de la vanne, celle-ci reste installée et fonctionnante.

Der Kugelhahn bleibt installiert und in Betrieb, obwohl man die untere Rohrleitung abmontiert.

BALL VALVES FULL BORE

ALFA 10N-10NF

ANSI 300



ACCOPPIAMENTO VALVOLA / ATTUATORE.
COUPLING VALVE / ACTUATOR.
ACCOMPLÉMENT VANNE / ACTIONNEUR.
ANTRIEB / KUGELHAHN KUPPLUNG.

ISO 5211

DIMENSIONI - DIMENSIONS - DIMENSIONS - ABMESSUNGEN

ALFA 10N										ALFA 10NF		
DN	15	20	25	32	40	50	65	80	100	125	150	200
Ø"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2.1/2"	3"	4"	5"	6"	8"
ØE	14	19	24	29	38	48	64	76	95	118	152	203
L	36	39	43	51	63	83	107	120	152	210	255	340
M / R	150 / -	150 / -	185 / -	185 / -	275 / -	275 / -	380 / -	380 / -	440/500	440/500	- / 800	- / 800
H	84	87	95	99	118	126	143	149	185	200	273	322
h	52	54	69	72	95	101	122	127	151	167	220	270
P	33	36	43	48	63	68.5	86	90	113	122	153	200
f/t	10/6	10/6	12/8	12/8	16/10	16/10	22/14	22/14	30/18	30/18	45/30	52/30
Kg.	1.5	2	2.7	4	6.5	10	17	20.5	33.5	40	69	132
ISO 5211	F03	F03	F03	F03	F05	F05	F07	F07	F10	F10	F14	F14
ØF	M5	M5	M5	M5	M6	M6	M8	M8	M10	M10	M16	M16
G	36	36	36	36	50	50	70	70	102	102	140	140

MATERIALI - MATERIALS - *MATERIAUX* - WERKSTOFFE

01	CORPO	BODY	CORPS	GEHÄUSE	ASTM A105 ASTM 216 WCB	ASTM A479 F304 ASTM A351 CF8	ASTM A479 F316 ASTM A351 CF8M
02	VITE	SCREW	VIS	SCHRAUBE	8.8 UNI 3740 ZINCATO - GALVANIZED ZINGUE - VERZINKT	A2-70 UNI 3740	
03	CHIUSURA	CLOSURE	EMBOUT	FLANSCHSTUTZEN	ASTM A105	ASTM A479 F304	ASTM A479 F316
04	STELO	STEM	TIGE	SPINDEL	AISI 410	ASTM A479 F316	
05	SFERA	BALL	BOULE	KUGEL	ASTM A479 F304		ASTM A479 F316
06	SEDI	SEATS	SIEGE	SITZRING	P.T.F.E. / R.P.T.F.E.		
07	GUARNIZIONE CORPO	BODY GASKET	ANNEAU	DICHTUNGSRING	P.T.F.E. + GRAF.	P.T.F.E.	
08	BUSSOLA	WASHER	JOINT DE TIGE	SPINDELABDICHTUNG	P.T.F.E. + GRAF.	P.T.F.E.	
09	PREMIGUARNIZIONE	GLAND	PRESSE ETOUPE	STOPFBÜCHSE	CF9SMnPb36 UNI 4838 ZINCATO - GALVANIZED ZINGUE - VERZINKT	ASTM A479 F304	
10	LEVA	LEVER	LEVIER	HANDHEBEL	Fe37 UNI 7070 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
11	DADO / CONTRODADO	NUT / LOCK NUT	ECROU / CONTRE ECROU	MUTTER / KONTERMUTTER	6S UNI 3740 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
12	MOLLE A TAZZA	SPRING WASHER	RONDELLES BELLEVILLE	TELLERFEDER	50CrV4 UNI 3545 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
13	DISPOSITIVO D'ARRESTO	STOP DEVICE	PLOT D'ARRET	ANSCHLAG VORRICHTUNG	8.8 UNI 3740 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
14	DISPOSITIVO ANTISTATICO	ANTISTATIC DEVICE	DISPOSITIF ANTISTATIQUE	ANTISTATISCHE VORRICHTUNG	ASTM A479 F316		
15	O'RING STELO	STEM O'RING	O'RING TIGE	SPINDEL O'RING	VITON		
16	O'RING CORPO	BODY O'RING	O'RING CORPS	GEHÄUSE O'RING	VITON		

- ALFA GARANTISCE DAL 1971 UGUALI PARTI DI RICAMBIO.

- ALFA GUARANTEES SPARE PARTS FOR SUPPLIES SINCE 1971.

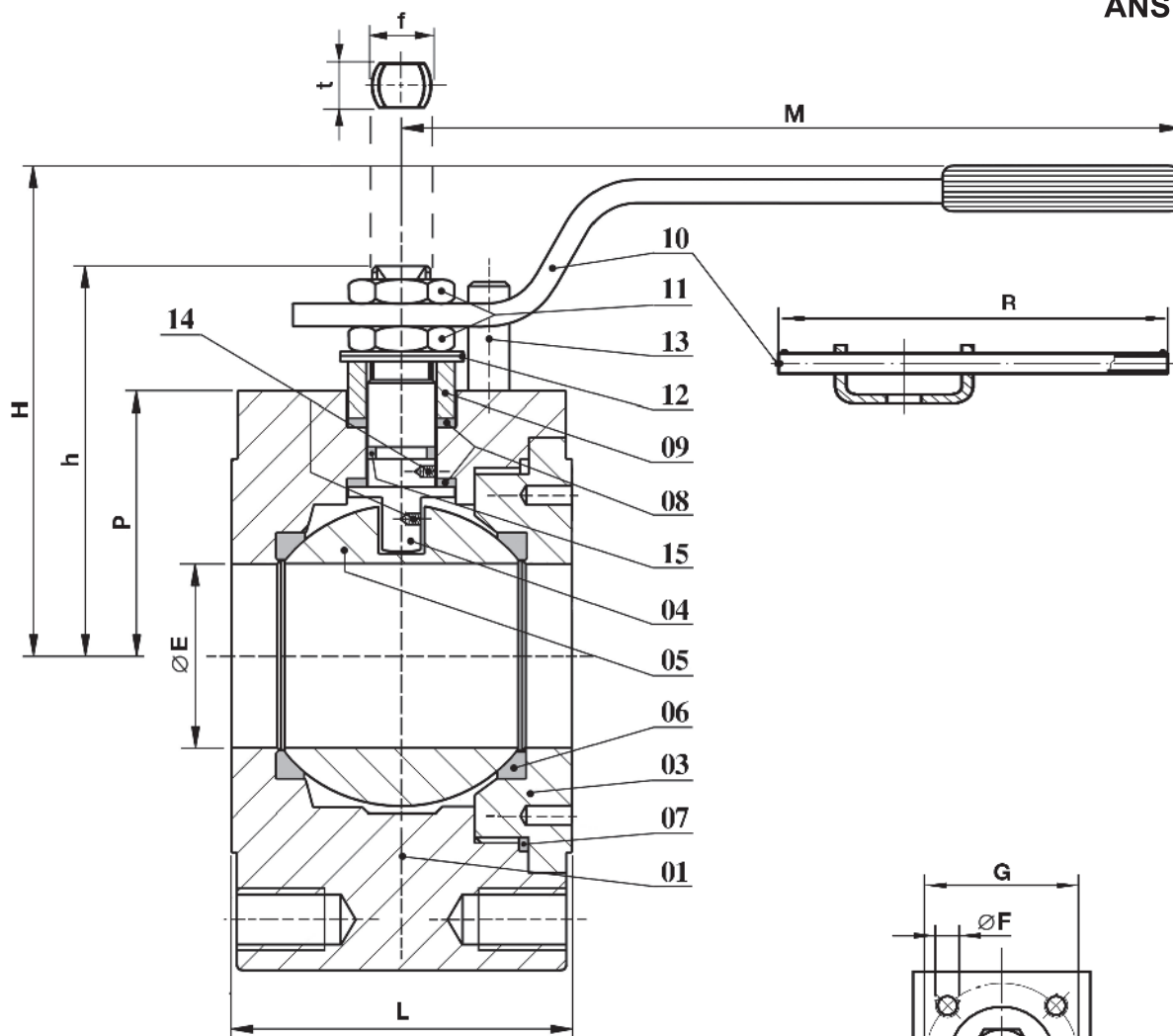
- ALFA FAIT GARANTIE POUR EGALES PARTIES D'ECHANGE DES 1971.

- ALFA GARANTIERT ERSATZTEILE FÜR LIEFERUNGEN SEIT 1971.

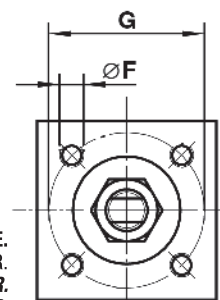
BALL VALVES FULL BORE

ALFA 10H.P.

PN 63 - 100
ANSI 600



ACCOPPIAMENTO VALVOLA / ATTUATORE.
COUPLING VALVE / ACTUATOR.
ACCOMPLEMENT VANNE / ACTIONNEUR.
ANTRIEB / KUGELHAHN KUPPLUNG.



ISO 5211

DIMENSIONI - DIMENSIONS - DIMENSIONS - ABMESSUNGEN

DN	10	15	20	25	32	40	50	65	80	100
Ø"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2.1/2"	3"	4"
ØE	14	14	19	24	29	38	48	64	76	95
L	55	55	60	65	75	85	100	125	150	185
M / R	150 / -	150 / -	150 / -	275 / -	275 / -	380 / -	380 / -	440 / 500	440 / 500	- / 800
H	84	84	87	102	105	125	134	169	174	231
h	52	52	54	75	78	104	110	136	141	175
P PN63	33	33	36	51	53	65	75	93	97.5	107
P PN100	33	33	36	51	53	65	75	95.5	105	115
P ANSI600	-	33	36	51	53	65	75	85.5	95	121.5
f/t	10/6	10/6	10/6	16/10	16/10	22/14	22/14	30/18	30/18	45/30
Kg.	2.5	2.5	5	6	9	10	19	31	40	67
ISO 5211	F03	F03	F03	F05	F05	F07	F07	F10	F10	F14
ØF	M5	M5	M5	M6	M6	M8	M8	M10	M10	M16
G	36	36	36	50	50	70	70	102	102	140

MATERIALI - MATERIALS - *MATERIAUX* - WERKSTOFFE

01	CORPO	BODY	CORPS	GEHÄUSE	ASTM A105	ASTM A479 F304	ASTM A479 F316
03	CHIUSURA	CLOSURE	EMBOUT	FLANSCHSTUTZEN	ASTM A105	ASTM A479 F304	ASTM A479 F316
04	STELO	STEM	TIGE	SPINDEL	AISI 410	ASTM A479 F316	
05	SFERA	BALL	BOULE	KUGEL	ASTM A479 F304		ASTM A479 F316
06	SEDI	SEATS	SIEGE	SITZRING	R.P.T.F.E. / P.T.F.E. + A.M.		
07	GUARNIZIONE CORPO	BODY GASKET	ANNEAU	DICHTUNGSRING	P.T.F.E. + GRAF.	P.T.F.E.	
08	BUSSOLA	WASHER	JOINT DE TIGE	SPINDELABDICHTUNG	P.T.F.E. + GRAF.	P.T.F.E.	
09	PREMIGUARNIZIONE	GLAND	PRESSE ETOUPE	STOPFBÜCHSE	CF9SMnPb36 UNI 4838 ZINCATO - GALVANIZED ZINGUE - VERZINKT	ASTM A479 F304	
10	LEVA	LEVER	LEVIER	HANDHEBEL	Fe37 UNI 7070 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
11	DADO / CONTRODADO	NUT / LOCK NUT	ECROU / CONTRE ECROU	MUTTER / KONTERMUTTER	6S UNI 3740 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
12	MOLLE A TAZZA	SPRING WASHER	RONDELLES BELLEVILLE	TELLERFEDER	50CrV4 UNI 3545 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
13	DISPOSITIVO D'ARRESTO	STOP DEVICE	PLOT D'ARRET	ANSCHLAG VORRICHTUNG	8.8 UNI 3740 ZINCATO - GALVANIZED - ZINGUE - VERZINKT		
14	DISPOSITIVO ANTISTATICO	ANTISTATIC DEVICE	DISPOSITIF ANTISTATIQUE	ANTISTATISCHE VORRICHTUNG	ASTM A479 F316		
15	O'RING STELO	STEM O'RING	O'RING TIGE	SPINDEL O'RING	VITON		

- ALFA GARANTISCE DAL 1971 UGUALI PARTI DI RICAMBIO.
- ALFA GUARANTEES SPARE PARTS FOR SUPPLIES SINCE 1971.

- ALFA FAIT GARANTIE POUR EGALES PARTIES D'ECHANGE DES 1971.
- ALFA GARANTIERT ERSATZTEILE FÜR LIEFERUNGEN SEIT 1971.

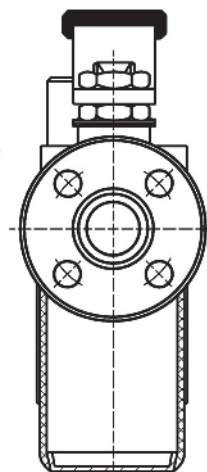
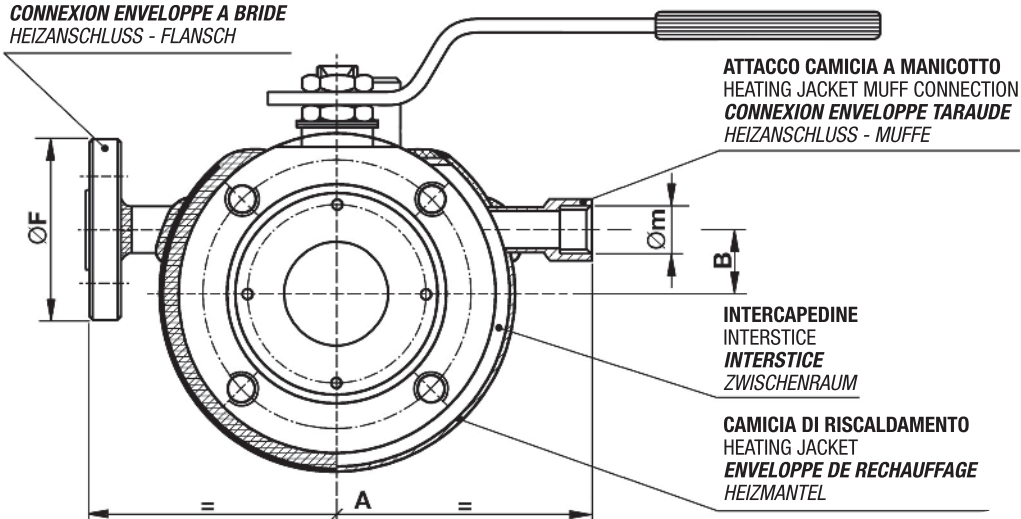
BALL VALVES FULL BORE

ALFA 11N-11NF

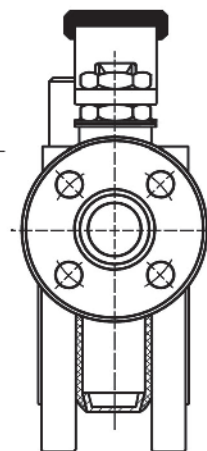
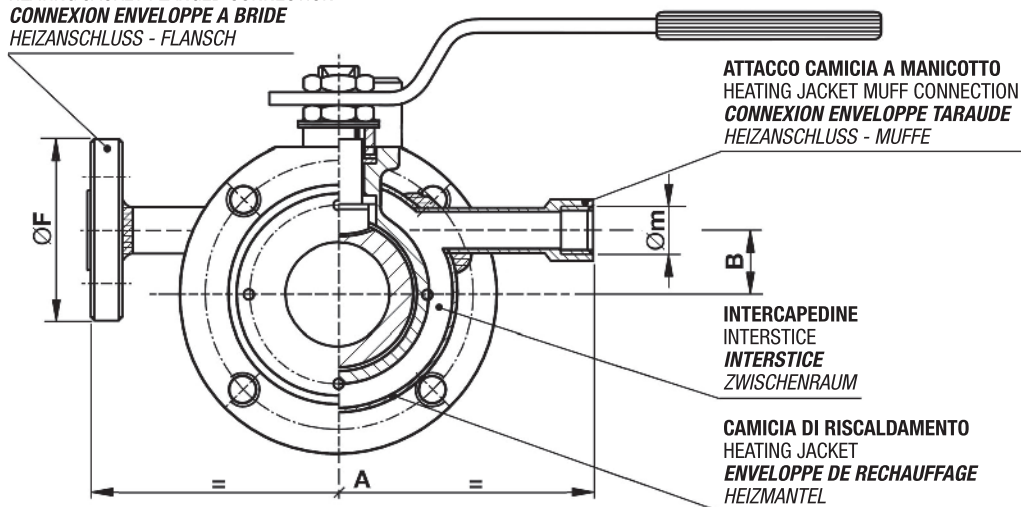
PN 10 - 40
ANSI 150 - 300

ALFA 10N/10NF CON CAMICIA DI RISCALDAMENTO IN ACCIAIO AL CARBONIO O INOX.
ALFA 10N/10NF WITH END TO END HEATING JACKET IN CARBON STEEL OR IN STAINLESS.
ALFA 10N/10NF AVEC ENVELOPPE DE RECHAUFFAGE EN ACIER AU CARBONE OU INOX.
ALFA 10N/10NF MIT HEIZMANTEL IN C-STAHLE ODER IN EDELSTAHL.

ATTACCO CAMICIA FLANGIATO
HEATING JACKET FLANGED CONNECTION
CONNEXION ENVELOPPE A BRIDE
HEIZANSCHLUSS - FLANSCH



ATTACCO CAMICIA FLANGIATO
HEATING JACKET FLANGED CONNECTION
CONNEXION ENVELOPPE A BRIDE
HEIZANSCHLUSS - FLANSCH

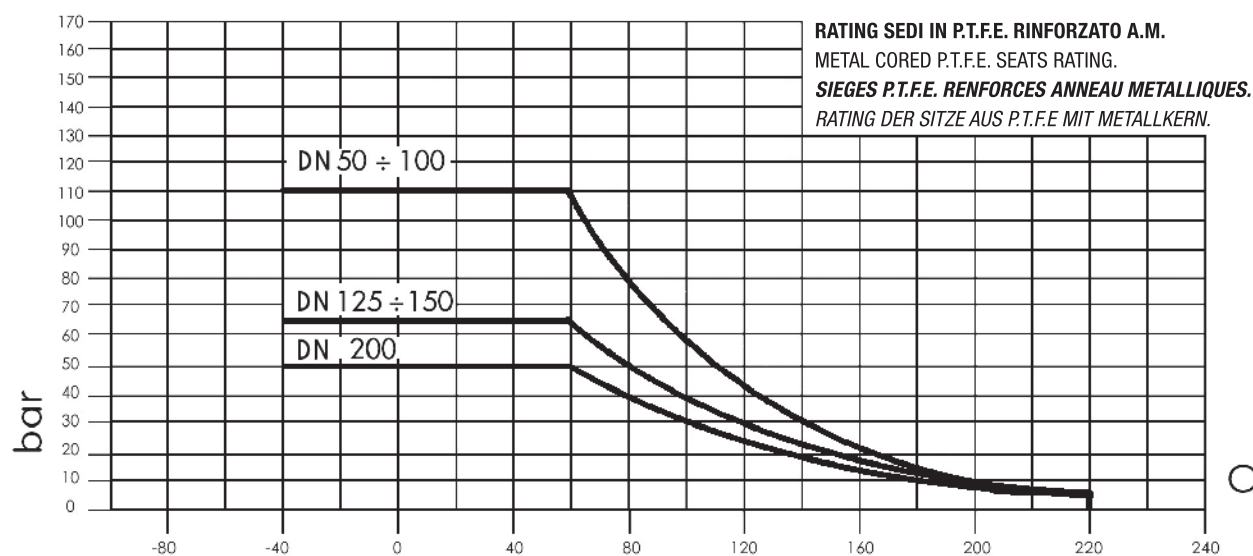
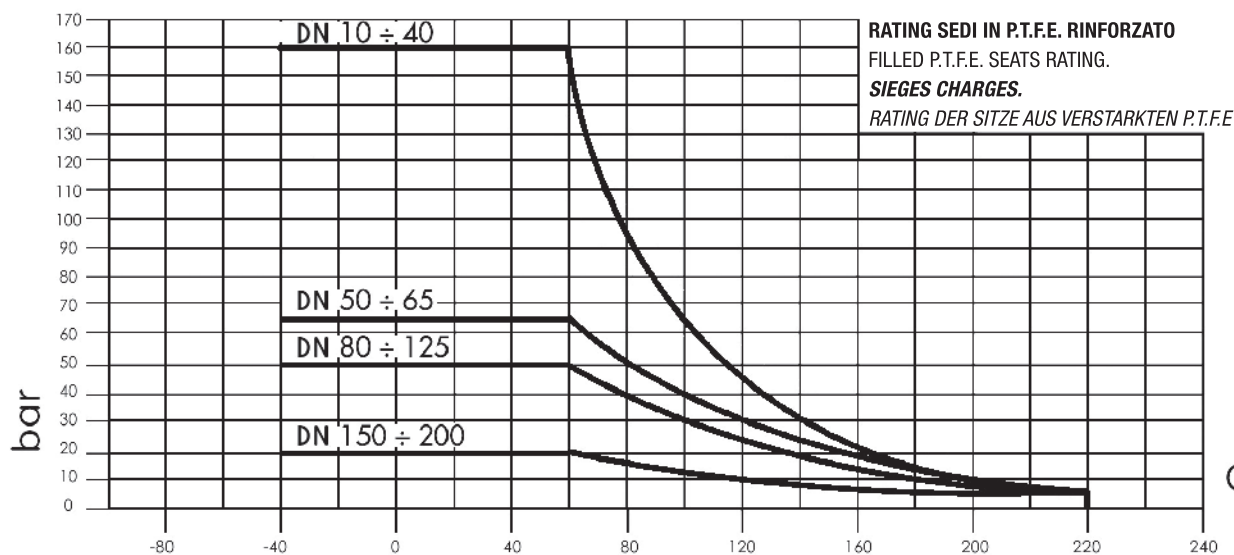
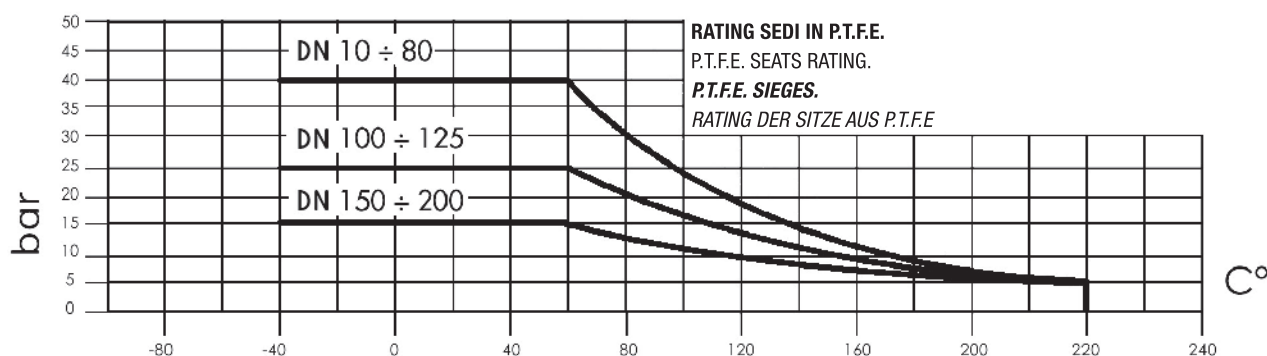


DIMENSIONI - DIMENSIONS - DIMENSIONS - ABMESSUNGEN

DN	10	15	20	25	32	40	50	65	80	100	125	150	200
Ø"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2.1/2"	3"	4"	5"	6"	8"
A	160	160	160	190	210	230	250	270	300	340	360	420	500
B	0	0	0	0	25	30	30	45	50	70	80	95	130
Øm	Ø 1/2" GAS					Ø 1" GAS							
ØF	DN 15					DN 25							
Kg.	3	3	3.5	4.5	6	9	11.5	20	25	40	60	108	146

- PER COSTRUZIONE E DIMENSIONI VEDERE TABELLA "ALFA 10N 10NF" - POUR CONSTRUCTION ET DIMENSIONS VOIR TABLE "ALFA 10N 10NF".
- FOR CONSTRUCTION AND DIMENSIONS SEE TABLES "ALFA 10N 10NF". - BAUART UND ABMESSUNGEN SIEHE TABELLE "ALFA 10N 10NF".

DIAGRAMMA - DIAGRAM - *DIAGRAMME* - DIAGRAMM

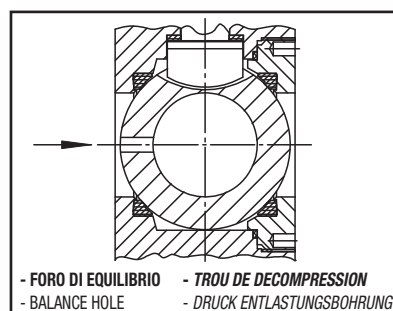
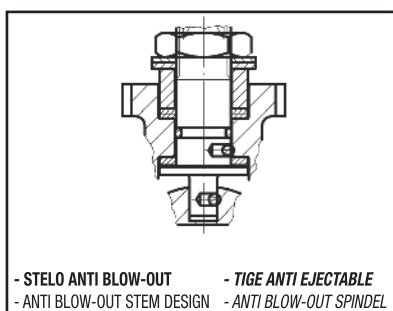
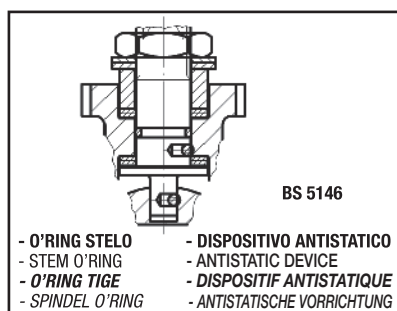
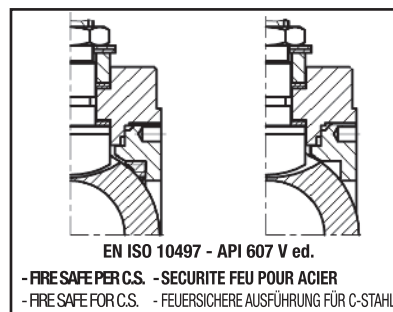
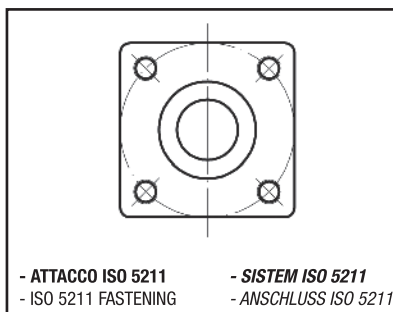
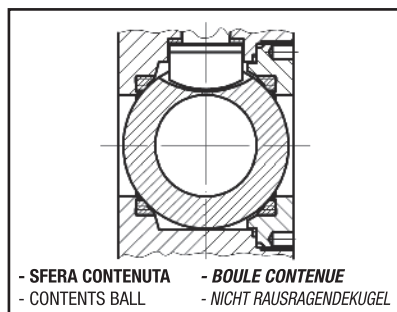


I valori riportati nei diagrammi sono puramente indicativi e possono variare in funzione delle condizioni di esercizio (fluido-p pressione-temperatura).

ALFA 10N-NF-H.P.

ESECUZIONI - EXECUTIONS - *EXECUTIONS* - BESCHREIBUNG

STANDARD



OPTIONAL

(OPTIONAL)

