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Linea del Freddo

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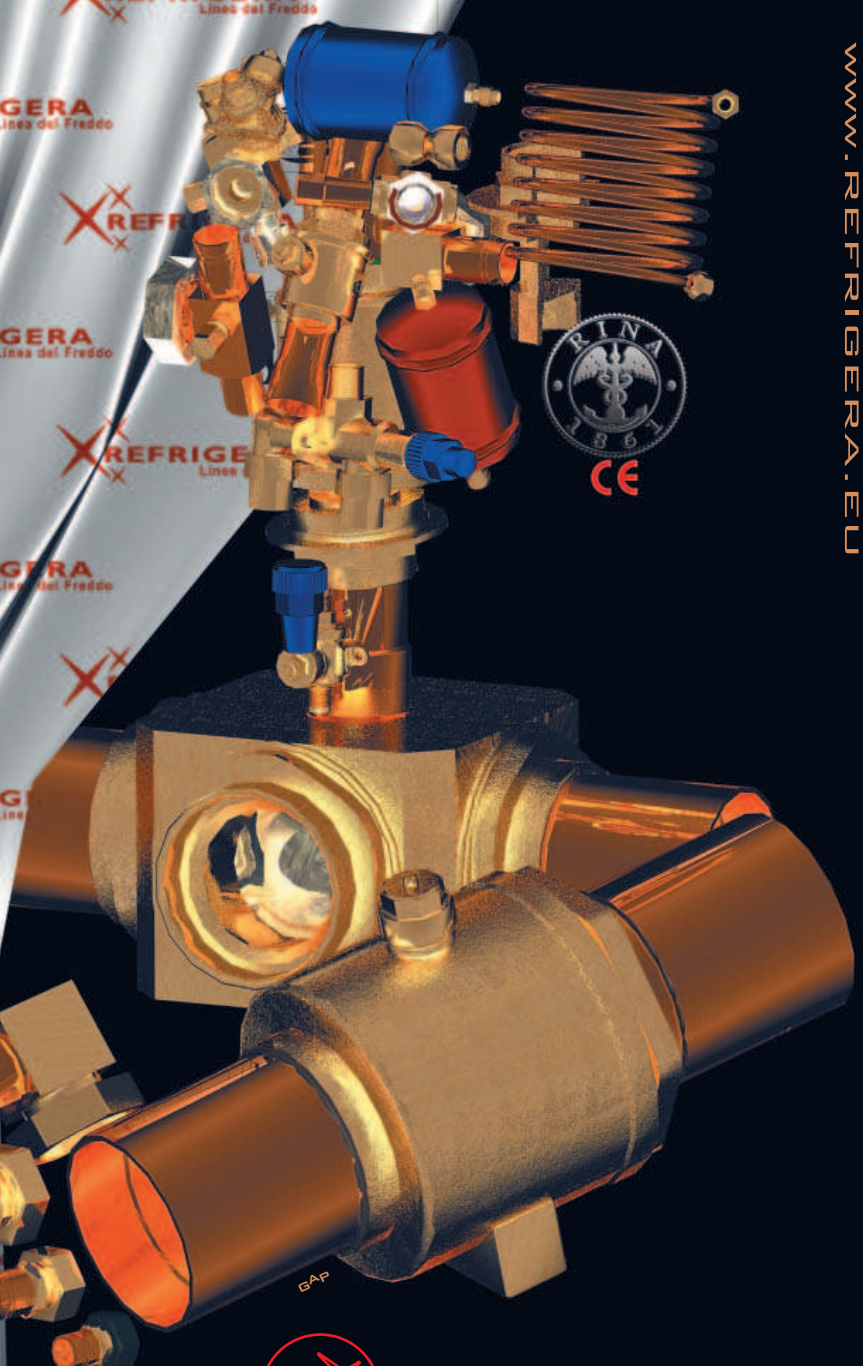


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www.refrigerera.eu

GAP

2009  CATALOGUE

THE GROUP

The Industrial Group B&M of Turin, showing for many years a profit on the market as a firm well oriented to manufacturing and trading in components for refrigeration and air conditioning, that boasts the presence of important Companies as:

- B&M Srl, located in Leini (Torino)
- B&M France, based in Nice - France
- IRD Iniziative Srl, located in Cordenons (Pordenone) - Manufacturing Dept.
- REC Srl, located in Gonars (Udine) - Manufacturing Dept.



THE COMPANY

B&M can pride itself for years to be known as a structure of reference in air conditioning and refrigeration sector. B&M srl, located in Turin - North Italy, projects and produces accessories in copper, specially made for VRF air conditioners' refrigerant piping systems (multi split with Variable Refrigerant Flow).

With its experience and technological toolery capacity, B&M is able to produce specific pipe systems to measure, in different forms, in copper.

We warrant quality of our products, conditioned with safety catch for each piece, thanks to our experience of management in the chilling sector.

B&M S.r.l.

Viale J.F. Kennedy, 150-152 - 10040 Leini (Torino) - Italy
Tel. +39 011 9969790 / +39 011 9910367 / +39 011 9969554
Fax +39 011 9915200 / +39 011 9915207
e-mail: info@bem-air.it
www.bem-air.it

B&M FRANCE S.a.r.l.

20 Rue Alberti - 06000 Nice - France
e-mail: infofrance@bem-air.com
www.bem-air.com

R.E.C. S.r.l.

Via Corte, 1 - 33050 Gonars (Udine) - Italy



- THE COMPANY
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- NEWS
- SPECIAL ASSEMBLIES
- OTHER SUCCESSES
- PRODUCTS

45BAR PRODUCTS FOR FREON

52BAR PRODUCTS FOR CO₂

120BAR PRODUCTS FOR CO₂ TRANCRITICAL CYCLES

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The Manufacture Company

IRD Iniziative S.r.l. Firm, owner of Refrigera Linea del freddo Trade Mark, has been dealing in Industrial Refrigeration for over 15 years. Since December 1st, 2003, IRD Iniziative S.r.l. has started working following ISO9001 / 2000 standards in design, manufacturing and trading with ball valves and refrigeration components.

This guarantees, that all products are manufactured by skilled workmen who use first class, suitable materials. Furthermore, our products have been subjected to inner quality tests - in accordance with 97/23/EC (PE Directive) - and have passed them all.

On the 24th of July '08 has signed an important joint-partnership with the Industrial **Group B & M of Turin**, showing for many years a profit on the market as a firm well oriented to manufacturing and trading in components for refrigeration and air conditioning, that boasts the presence of important Companies as:

B&M Srl

B&M France

REC Srl

The new partner, that was already a customer of the company, will promote the strengthening of the economies of scale with regard to the integration of functions in common, will provide to reduce time in decision- making to gain a

possible addition into the products range, and will allow the group to expand its market sales to the countries of Eastern Europe, where it has significant presences.

Mr. Agatino Maurizio Papa, owner of B&M Group, has appointed as General Manager of the company IRD Iniziative.

Ing. Piero Ragusini has appointed as Head of Commercial and Technical Section of IRD. We wish to confirm that this agreement will provide just benefits for the customers that already know us, which now can count on a stronger group against competition, and for the new customers, which can evaluate by now the new and enlarged products range.

The wholesale Trading

With his Manufacturing Site located in Cordenons (PN), thanks to the great flexibility typical of a small Company, IRD Iniziative S.r.l. is able to meet all special customer needs and also is the best partner that your purchasing department can have, because is able to perform many of the customer's acquisition and inventory management activities, with a business relationship that gives you many advantages: savings on acquisition costs, more time devoted to your core business, the knowledge

of someone familiar with engineering needs: in general improving efficiency and profit margin.

As customer, thanks to Refrigera help, you'll be able to structure your purchasing department slim and efficiently, which means no more than two employees and, most of all, no need for specific education or field experience in technical buy.

And you will see that the higher your purchasing requirements, the better the results!



Products we deal in



Our Stand at MCE Exhibition - Milan - Italy 2008



New Ball Valve "Zero"

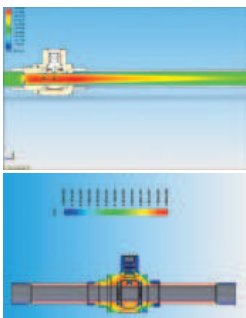
"Thus was born the project A-Zero, a valve in which simplicity is its winning weapon"

News

In order to reconcile the demand of high quality and low price, thanks to close cooperation with its suppliers, IRD has developed a new valve ball extremely simple, but extremely performing. Have been carried out a series of computer-simulated fluid dynamics experiments in order to achieve the maximum improvement of the

parameters to obtain high efflux-coefficients and very small dimensions. Thus was born the project A-Zero, a valve in which simplicity is its winning weapon: the extreme weight reduction has not compromised the reliability or the seal-closing and the possibility of adjusting opening through the same valve-cap,

allows easy installation and management. The market for safety valves expected for the introduction of exchange devices that simplify the periodic inspection and maintenance on the security twin-valves: now IRD produces them by itself in five types to encounter the most widespread diameters.



New Ball Valve "Zero" Testing Results

Special Assemblies

IRD has been sought for meet the demand of customers, increasingly oriented to reduce the time and the effort for manoeuvres and maintenance of the facilities, through remote controls: the numerous



Actuated Ball Valve

requests for automation by electric actuators, forcing IRD to devote to actuated - 2 way, 3 way - valves an entire section of the catalogue.

Other successes

During the whole year 2007, it has been worked on improving reliability, safety, performance of the large M-type valves. As a result, now valve and connectors are entirely turned from a single steel tube, avoiding assembling and brazing operations - sources of possible defects.

The sales' success for non-return valves has encouraged the extension of the range with new large-types (up to 80 mm), in which have been experienced new solutions to increase sealing at low pressure closure and to reduce dynamic beat phenomena providing to a better cushioning and damping of the stop device.

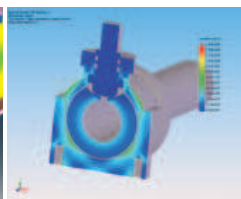
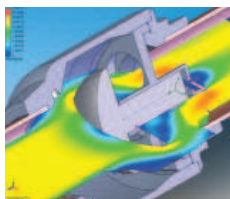
At last, the new range of IRD products suitable for CO2 trans critical-cycles, has been engaged the technical staff to become more rigorous in monitoring leaks and increase the burst tests.

All products in all available diameters will be displayed to the next World Trade Fair in which Refrigerera is an active supporter and specially:

- Mostra Convegno EXPOCOMFORT - Italia.
- CHILLVENTA - Deutschland.
- AHR EXPO - USA and Mexico.
- CholodEXPO - Rossija.
- CRC China Retail Conference & Exposition Shanghai - China.



New Safety Changeover Device



Ball Valves SMALL SIZE



I Il nostro sistema bi-direzionale permette di montare la valvola senza tenere in considerazione la direzione del flusso. Il piccolo foro sulla sfera permette alla valvola di sopportare la pressione del gas senza sollecitare il restante materiale.

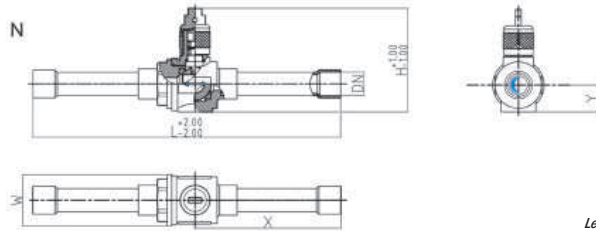
U Our bi-flow system allows the mounting of the valve without taking into consideration the direction of the flow. The small equalization hole on the sphere will allow the valve to support the gas pressure without stressing the other material.

U Unser bi-flow System erlaubt die Ventile zu montieren ohne auf die Richtung (Direktion) des

Durchganges zu beachten. Das kleine Loch erlaubt einen Druck vom Gas auszuhalten ohne anderes Material zu belasten.

N Notre système bi - directionnel permet d'installer la vanne sans considérer la direction du flux. Le petit trou permet à la vanne de supporter la pression du gaz utilisé sans fatiguer le matériel restant.

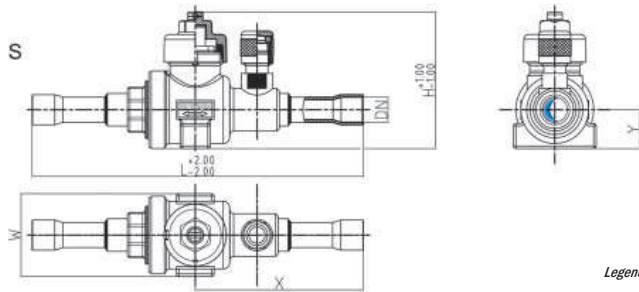
Çift yönlü sistemimiz sayesinde vanayı akış yönü farketmeksizin monte edebilirsiniz. Küre üzerindeki küçük dengeleme deliği sayesinde vana diğer malzemeleri zorlamadan gaz basıncına dayanabilir.



Legenda simboli

Dimensions

Code	Dimensions	Weight	Sphere passage	Length	Height	Wide	CentreX	CentreY	Kv
REF	DN	(g)	(mm)	L (mm)	H (mm)	W (mm)	X (mm)	Y (mm)	DDP=1bar (m ³ /h)
REF0.1.N.A.006.1	6 mm	90	8	126	45	22	60	12	1,0
REF0.1.N.A.006.2	1/4"	90	8	126	45	22	60	12	1,0
REF0.1.N.A.010.1	10 mm	108	8	132	45	22	63	12	2,4
REF0.1.N.A.010.2	3/8"	108	8	132	45	22	63	12	2,4
REF0.1.N.A.012.1	12 mm	120	8	139	45	22	67	12	2,7
REF0.1.N.A.012.2	1/2"	120	8	139	45	22	67	12	2,7



Legenda simboli

Dimensions

Code	Dimensions	Weight	Sphere passage	Length	Height	Wide	CentreX	CentreY	Kv
REF	DN	(g)	(mm)	L (mm)	H (mm)	W (mm)	X (mm)	Y (mm)	DDP=1bar (m ³ /h)
REF0.1.S.A.006.1	6 mm	290	10	126	32	42	65	15	0,8
REF0.1.S.A.006.2	1/4"	292	10	126	32	42	65	15	0,8
REF0.1.S.A.010.1	10 mm	280	10	132	32	42	67	15	2,3
REF0.1.S.A.010.2	3/8"	282	10	132	32	42	67	15	2,3
REF0.1.S.A.012.1	12 mm	284	10	139	32	42	72	15	4,5
REF0.1.S.A.012.2	1/2"	286	10	139	32	42	72	15	4,5

Valvole a Sfera MISURA PICCOLA

Ball Valves SMALL SIZE



Ball Valves MEDIUM SIZE



I Il nostro sistema bi-direzionale permette di montare la valvola senza tenere in considerazione la direzione del flusso. Sono disponibili anche con la valvolina di precarica (fornita già stampata fino a 3/4").

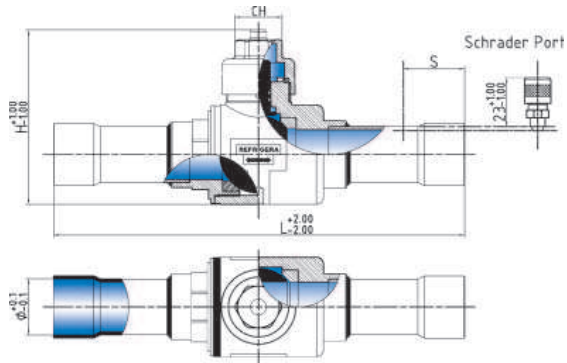
UK Our bi-flow system allows the mounting of the valve without taking into consideration the direction of the flow. Valves with access port are available (up to 3/4" schrader is pre-forged).

D Unser bi-flow System erlaubt die Ventile zu montieren ohne auf die Richtung (Direktion) des Durchganges zu

beachten. Zur Verfüegung auch mit Schraderventil (Bis 3/4" sind die Schrader Ventilen Vorgepresst).

F Notre système bi-directionnel permet d'installer la vanne sans considérer la direction du flux; également à disposition la vanne avec la Schrader sur commande du client. (Jusqu'à 3/4" schrader port est faux).

C Çift yönlü sistemimiz sayesinde vanayı akış yönü farketmeksizin monte edebilirsiniz. Subap girişli vanalar mevcuttur (3/4" e kadar subaplar vana üzerinde sabitir.)



Legenda simboli

Dimensions

Code	Dimensions	Weight	Sphere passage	Length	Height	Connections diameter	Spanner meas.	Kv factor	G	S
REF	DN	(g)	(mm)	L (mm)	H (mm)	∅ (mm)	CH (mm)	DDP=1bar (m ³ /h)	(mm)	(mm)
REF1.0.N.B.015.1	15 mm	360(N) 390(S)	15	148	56	15,2	16	12,5	41,5	28
REF1.0.N.B.016.3	16 mm / 5/8"	360(N) 390(S)	15	148	56	16,2	16	13	41,5	28
REF1.0.N.B.018.1	18 mm	360(N) 390(S)	15	148	56	18,2	15	14	41,5	28
REF1.0.N.B.018.2	3/4"	360(N) 390(S)	15	148	56	19,3	15	14	41,5	28
REF1.0.N.C.022.3	22 mm / 7/8"	750	19	185	87	22,3	20	24	76	32
REF1.0.N.D.028.1	28 mm	1076	25	205	89	28,2	20	40	76	35
REF1.0.N.D.028.2	1-1/8"	1076	25	205	89	28,8	20	40	76	35
REF1.0.N.E.035.3	35 mm / 1-3/8"	1322	32	205	100	35,2	20	67,3	76	40
REF1.0.N.F.042.1	42 mm	2400	40	240	115	42,2	22	98	114,5	48
REF1.0.N.F.042.2	1-5/8"	2400	40	240	115	41,5	22	98	114,5	48
REF1.0.N.G.054.3	54 mm / 2-1/8"	3386	49,5	270	130	54,3	22	190	114,5	50
REF1.0.N.G.064.1	64 mm	3470	49,5	286	130	64,3	22	200	114,5	50
REF1.0.N.G.067.2	2-5/8"	4026	49,5	286	130	67	22	210	114,5	60

N: normal assemblage without access port

S: Schrader access port + mechanism mounted on copper tubes

Valvole a Sfera MISURA MEDIA
Ball Valves MEDIUM SIZE



Ball Valves MEDIUM LARGE SIZE

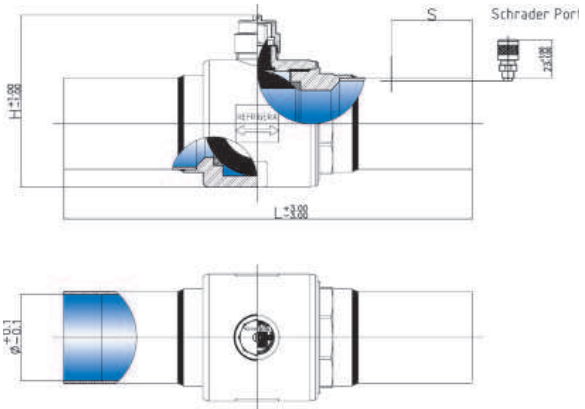
🇮🇹 Misura grande per diametri interni 64-67 mm a passaggio pieno e misura ridotta fino a 80 mm (3-1/8").

🇬🇧 Bigger size for diameters 64 mm - 2-5/8" - full port, and diameters up to 3-1/8" (80 mm) - reduced port.

🇩🇪 Größer Abmessung für Durchmesser 64v.67 mm Volle Passage und reduziert bis 3-1/8" (80 mm).

🇫🇷 Grande taille pour les diamètres 64 mm - 2-5/8" à passage intégral, et des diamètres jusqu'à 3-1/8" (80 mm) à passage réduit.

🇹🇷 64 mm - 2-5/8" çap tam geçiřli, 3-1/8" (80 mm) 'e kadar çaplar daraltılmıř geçiřlidir.



Legenda simboli

Valvole a Sfera MISURA MEDIA GRANDE Ball Valves MEDIUM LARGE SIZE

Dimensions

Code	Dimensions	Weight	Sphere passage	Length	Height	Diameter connections	Spanner meas.	Kv Factor
REF	DN	(g)	(mm)	L (mm)	H (mm)	∅ (mm)	CH (mm)	DDP=1bar (m ³ /h)
REF1.0.N.H.064.1	64 mm	7942	65	360	160	64	32	360
REF1.0.N.H.067.2	2-5/8"	7886	65	360	160	66,8	32	370
REF1.0.N.H.076.3	76 mm / 3"	8024	65	360	160	76,1	32	380
REF1.0.N.H.080.3	80 mm / 3-1/8"	7750	65	380	160	80	32	390

N: normal assemblage without access port

S: Schradler access port + mechanism mounted on copper tubes

Ball Valves LARGE SIZE

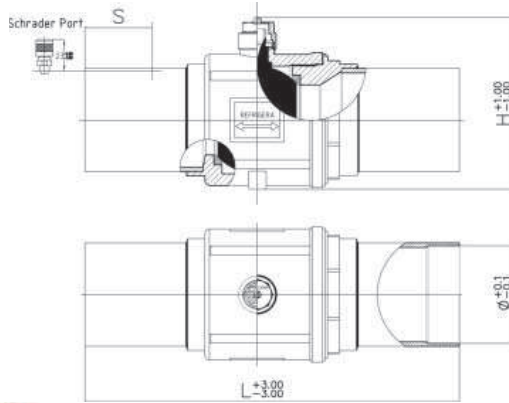
Valvole a passaggio pieno fino a 108 mm (4-1/4"). Per le valvole 105-127 mm è prevista la versione in acciaio senza tubi in rame.

Full port-ball valve up to 108 mm 4-1/4". For Valves 4-1/8" - 5" is available a steel version without copper tube.

Ventilen bis 108 mm mit Volle Passage. 105 mm bis 127 mm Stahlvernickelt ist vorgesehen.

Vannes du diamètres jusqu'à 4-1/4" à passage intégral. Pour Vannes jusqu'à 5" est disponible une version en acier sans tube de cuivre.

108 mm (4-1/4")'e kadar vanalar tam geçişlidir. 4-1/8" - 5" arası boyalarda bakır borusuz çelik model mevcuttur.



Legenda simboli



NEW TOP RANGE 5" STEEL Ball Valve: The Big One!

Dimensions

Code	Dimensions	Weight	Sphere passage	Length	Height	Diameter connections	Spanner meas.	Kv Factor
REF	DN	(g)	(mm)	L (mm)	H (mm)	Ø (mm)	CH (mm)	DDP=1bar (m ³ /h)
REF1.0.N.L.080.3	80 mm / 3-1/8"	15162	80	420	195	80,3	32	500
REF1.0.N.L.089.3	89 mm / 3-1/2"	15044	80	420	195	89,3	32	520
REF1.0.N.L.092.2	3-5/8"	16800	80	420	195	92,4	32	535
REF1.0.N.L.105.3	105 mm / 4-1/8"	17205	80	420	195	105,4	32	570
REF1.0.N.L.108.3	108 mm / 4-1/4"	14908	80	420	195	108,5	32	575
REF1.0.N.M.115.3.AA	D EXT 115 mm D INT 106 mm	19806	100	325	220	115	32	860
REF1.0.N.M.127.3.AA	D EXT 119 mm D INT 106 mm	19806	100	325	220	127	32	880

N: normal assemblage without access port

S: Schrader access port + mechanism mounted on copper tubes

Valvole a Sfera MISURA GRANDE
Ball Valves LARGE SIZE



Ball Valves FOR TURBOCOR™ COMPRESSORS

I I compressori Danfoss™ della serie TurboCor™ possiedono un grado di efficienza dal 33% al 50% maggiore rispetto ai vite tradizionali.

Le valvole Refrigera™ per compressori, sono state progettate appositamente per adattarsi alle performance di questa nuova tecnologia e favorirne l'alta efficienza.

Grazie alla grande esperienza maturata negli impianti di condizionamento, IRD ha assemblato questa valvola a passaggio pieno di 75mm, sperimentando una nuova soluzione per garantire il corretto allineamento della flangia e la perfetta tenuta.

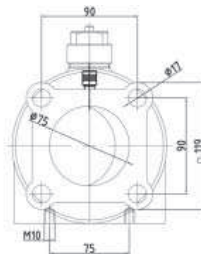
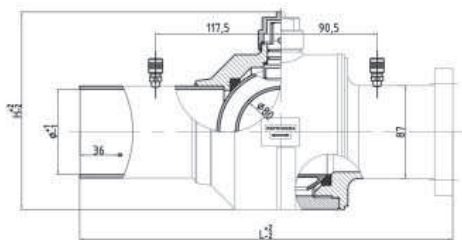
Le valvole sono predisposte per essere manovrate a distanza tramite attuatore elettrico Refrigera™, fornito a parte.

A Danfoss™ TurboCor™ is 33% to 50% more efficient than other compressor technologies.

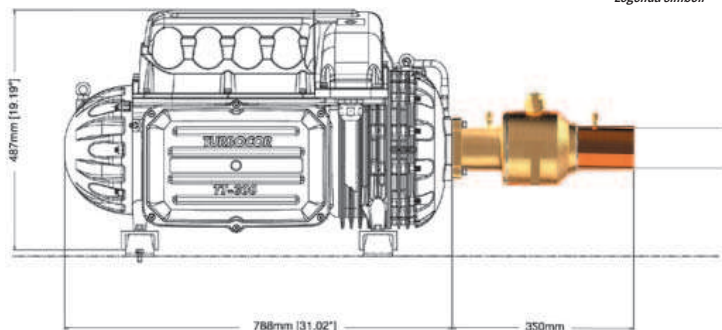
Refrigerator™ valve is designed to follow the exceptional compressor performance and to support its high efficiency.

Thanks to the great experience in HVAC Systems, IRD developed this 75mm full port ball valve in which have been experienced new solution to assure perfect alignment and complete seal closing.

As an option, the valve is ready to be remote manouvered by Refrigera™ Actuator, sold separately.



Legenda simboli



Dimensions

Code	Dimensions	Weight	Sphere passage	Length	Height	Diameter connections	Spanner meas.	Kv Factor
REF	DN	(g)	(mm)	L (mm)	H (mm)	∅ (mm)	CH (mm)	m ³ /h (DDP=1bar)
REF5.0.SSL.080.3	80 mm / 3-1/8"	11500	80	350	185	80,3	32	500
REF5.0.SSL.089.1	89 mm / 3-1/2"	11500	80	350	185	89,3	32	520
REF5.0.SSL.092.2	3-5/8"	11500	80	350	185	92,4	32	535
REF5.0.SSL.105.3	105 mm / 4-1/8"	11500	80	350	185	105,4	32	570
REF5.0.SSL.108.3	108 mm / 4-1/4"	11500	80	350	185	108,5	32	575

Valvole a Sfera PER COMPRESSORI TURBOCOR™ Ball Valves FOR TURBOCOR™ COMPRESSORS



3Way Ball Valves

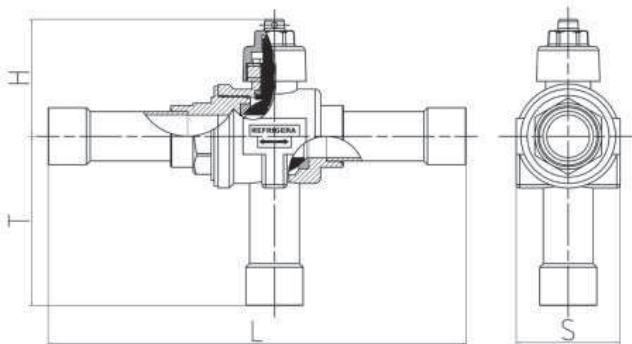
I Valvola a sfera nella versione a tre vie, particolarmente utilizzabile nei cicli di sbrinamento nelle vetrine frigorifere.

F Vanne a boule en version à 3-voies, particulièrement utilisable dans les cycles de dégivrages des vitrines frigorifiques.

UK 3-ways ball valve, especially useful in refrigerators defrosting processes

C 2 ve 3 yollu actuatorlu motorize vanalar özellikle buzdolabi defrost sistemlerinde çok kullanışlıdır.

D Kugelventilen koennen jetzt. Besonders wichtig fuer Abtauprozess der Teken.



Legenda simboli

Valvole a Sfera 3 vie 3Way Ball Valves

Dimensions

Code	ODS	H	L	S	T	Kv
REF	DN	(mm)	(mm)	(mm)	(mm)	DOP=1bar (m ³ /h)
REF1.0.S.A.006.1.M	6 mm	56	132	33	46	0,8
REF1.0.S.A.006.2.M	1/4"	56	132	33	46	0,8
REF1.0.S.A.010.1.M	10 mm	56	132	33	48,5	2,3
REF1.0.S.A.010.2.M	3/8"	56	132	33	48,5	2,3
REF1.0.S.A.012.1.M	12 mm	56	132	33	53	4,5
REF1.0.S.A.012.2.M	1/2"	56	132	33	53	4,5
REF1.0.N.B.015.1.M	15 mm	65	148	34	61	12,5
REF1.0.N.B.016.3.M	16 mm - 5/8"	65	148	34	61	13
REF1.0.N.B.018.1.M	18mm	65	148	34	61	14
REF1.0.N.B.018.2.M	3/4"	65	148	34	61	14
REF1.0.N.C.022.3.M	22 mm - 7/8"	87	185	46	79	24
REF1.0.N.D.028.1.M	28 mm	89	210	50	89	40
REF1.0.N.D.028.2.M	1-1/8"	89	210	50	89	40
REF1.0.N.E.035.3.M	35 mm - 1- 3/8"	102	210	61	94	67,3
REF1.0.N.F.042.1.M	42 mm	114	245	76	113	98
REF1.0.N.F.042.2.M	1-5/8"	114	245	76	113	98
REF1.0.N.G.054.3.M	54 mm - 2-1/8"	129	275	80	119	190
REF1.0.N.G.064.1.M	64 mm	129	286	80	137	200
REF1.0.N.G.067.2.M	2-5/8"	129	286	80	137	210

Rotary-Electric Actuators



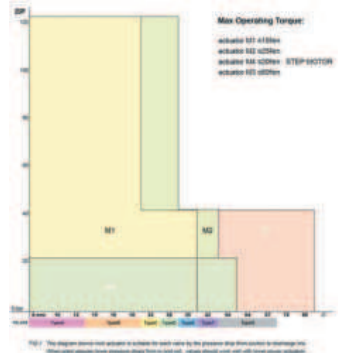
	ATT 030/90 230 50-60	ATT 060/90 230 50-60	ATT 8/90 24 50-60
CODE	ATT 030/90 230 50-60	ATT 060/90 230 50-60	ATT 8/90 24 50-60
TYPE	Electric Actuator 90° 30 sec.	Electric Actuator 90° 60 sec.	Electric Actuator 90° 8 sec.
TORQUE	15 : 25 Nm	15 : 25 Nm	80 Nm
VOLTAGE	230V 50-60Hz	230V 50-60Hz	24V AC 50/60 Hz
ASSEMBLY ISO5211 DIN3337	F03 CH09 M5x4	F03 CH09 M5x4	F05/7 CH14
POWER ABSORPTION W (mA)	3.5W (16mA)	3.5W (16mA)	400mA (10W); max 500mA (12W)
T operat.	-20° +70°	-20° +70°	-20° +70°



Attuatori PER VALVOLE MOTORIZZABILI Rotary-Electric Actuators

Dimensions

Code	ATT030/90	ATT060/90	ATT8/90	ATT8/90
	230V 50-60	24V 50-60	24V AC	24V 50-60
TORQUE	15 Nm	20 Nm	80 Nm	80 Nm
REF1.0.S.A.006.1.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.S.A.006.2.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.S.A.010.1.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.S.A.010.2.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.S.A.012.1.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.S.A.012.2.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.N.B.015.1.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.N.B.016.3.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.N.B.018.1.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.N.B.018.2.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.N.C.022.3.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.N.D.028.1.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.N.D.028.2.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.N.E.035.3.M.K	<input type="checkbox"/>	<input type="checkbox"/>	NO	NO
REF1.0.N.F.042.1.M.K	<input type="checkbox"/> DP<20bar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
REF1.0.N.F.042.2.M.K	<input type="checkbox"/> DP<20bar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
REF1.0.N.G.054.3.M.K	<input type="checkbox"/> DP<20bar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
REF1.0.N.G.064.1.M.K	<input type="checkbox"/> DP<20bar	<input type="checkbox"/> DP<20bar	<input type="checkbox"/>	<input type="checkbox"/>
REF1.0.N.G.067.2.M.K	<input type="checkbox"/> DP<20bar	<input type="checkbox"/> DP<20bar	<input type="checkbox"/>	<input type="checkbox"/>



Visit www.refrigera.eu to know which actuator is the best for your requirements.

Rotary-Actuated 2Way Ball Valves



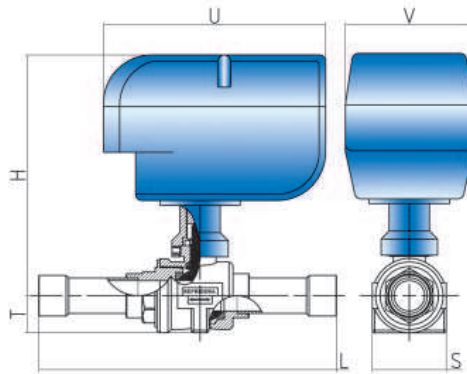
Motorizzazione della valvola a sfera per la versione a 2 vie, particolarmente utilizzabile nei cicli di sbrinamento nelle vetrine frigorifere.

Motorized Valve with actuator for 2-ways valve, especially useful in refrigerators defrosting processes.

Kugelventilen koennen jetzt auch mit elektrischen Actuator geliefert werden. Besonders wichtig fuer Abtauprozess der Teken.

Vanne a boule motorisée soit en version à 2-voies, particulièrement utilisable dans les cycles de dégivrages des vitrines frigorifiques.

2 ve 3 yollu actuatorialu motorize vanalar özelligke buzdolabi defrost sistemlerinde çok kullanışlıdır.



Legenda simboli

Dimensions

Code	ODS	Weight	H	L	S	U	V
REF	DN	(g)	(mm)	(mm)	(mm)	(mm)	(mm)
REF1.0.S.A.006.1.K	6 mm	1938	181 mm	132	33	141	82
REF1.0.S.A.006.2.K	1/4"	1940	181 mm	132	33	141	82
REF1.0.S.A.010.1.K	10 mm	1930	181 mm	132	33	141	82
REF1.0.S.A.010.2.K	3/8"	1932	181 mm	132	33	141	82
REF1.0.S.A.012.1.K	12 mm	1935	181 mm	132	33	141	82
REF1.0.S.A.012.2.K	1/2"	1938	181 mm	132	33	141	82
REF1.0.N.B.015.1.K	15mm	2020	137	148	34	141	82
REF1.0.N.B.016.3.K	16 mm - 5/8"	2030	137	148	34	141	82
REF1.0.N.B.018.1.K	18mm	2040	137	148	34	141	82
REF1.0.N.B.018.2.K	3/4"	2040	137	148	34	141	82
REF1.0.N.C.022.3.K	22 mm - 7/8"	2500	150	185	46	141	82
REF1.0.N.D.028.1.K	28 mm	2730	1/2"	210	50	141	82
REF1.0.N.D.028.2.K	1-1/8"	2730	1/2"	210	50	141	82
REF1.0.N.E.035.3.K	35 mm - 1-3/8"	2970	160 mm	210	61	141	82
REF1.0.N.F.042.1.K	42 mm	4050	167 mm	245	76	141	82
REF1.0.N.F.042.2.K	1-5/8"	4050	167 mm	245	76	141	82
REF1.0.N.G.054.3.K	54 mm - 2-1/8"	5035	203 mm	275	80	195	105
REF1.0.N.G.064.1.K	64 mm	5120	203 mm	286	80	195	105
REF1.0.N.G.067.2.K	2-5/8"	5674	203 mm	286	80	195	105

Valvole a Sfera Motorizzabili a 2 vie Rotary-Actuated 2Way Ball Valves



Rotary-Actuated 3Way Ball Valves

IT Motorizzazione della valvola a sfera per la versione a tre vie, particolarmente utilizzabile nei cicli di sbrinamento nelle vetrine frigorifere.

UK Motorized Valve with actuator for 3-ways valve, especially useful in refrigerators defrosting processes.

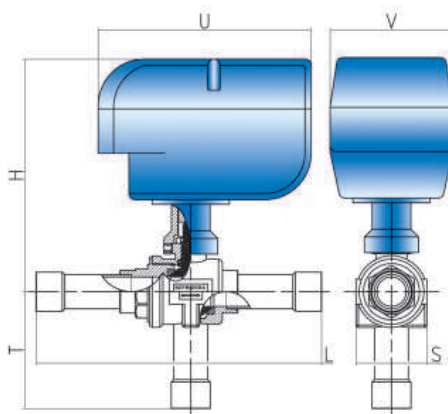
DE Kugelventilen koennen jetzt auch mit elektrischen Actuator geliefert werden. Besonders wichtig fuer Abtauprozess der Teken.

FR Vanne a boule motorisée soit en version à 3-voies, particulièrement utilisable dans les cycles de dégivrages des vitrines frigorifiques.

TR 2 ve 3 yollu actuatörlü motorize vanalar özellikle buzdolabi defrost sistemlerinde çok kullanışlıdır.



Valvole a Sfera Motorizzabili a 3 vie Rotary-Actuated 3Way Ball Valves



Legenda simboli

Dimensions

Code	ODS	H	L	S	T	U	V
REF	DN	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
REF1.0.S.A.006.1.M.K	6 mm	181 mm	132	33	46	141	82
REF1.0.S.A.006.2.M.K	1/4"	181 mm	132	33	46	141	82
REF1.0.S.A.010.1.M.K	10 mm	181 mm	132	33	48,5	141	82
REF1.0.S.A.010.2.M.K	3/8"	181 mm	132	33	48,5	141	82
REF1.0.S.A.012.1.M.K	12 mm	181 mm	132	33	53	141	82
REF1.0.S.A.012.2.M.K	1/2"	181 mm	132	33	53	141	82
REF1.0.N.B.015.1.M.K	15 mm	137	148	34	61	141	82
REF1.0.N.B.016.3.M.K	16 mm - 5/8"	137	148	34	61	141	82
REF1.0.N.B.018.1.M.K	18 mm	137	148	34	61	141	82
REF1.0.N.B.018.2.M.K	3/4"	137	148	34	61	141	82
REF1.0.N.C.022.3.M.K	22 mm - 7/8"	150	185	46	79	141	82
REF1.0.N.D.028.1.M.K	28 mm	1/2"	210	50	89	141	82
REF1.0.N.D.028.2.M.K	1-1/8"	1/2"	210	50	89	141	82
REF1.0.N.E.035.3.M.K	35 mm - 1-3/8"	160 mm	210	61	94	141	82
REF1.0.N.F.042.1.M.K	42 mm	167 mm	245	76	113	141	82
REF1.0.N.F.042.2.M.K	1-5/8"	167 mm	245	76	113	141	82
REF1.0.N.G.054.3.M.K	54 mm - 2-1/8"	203 mm	275	80	119	195	105
REF1.0.N.G.064.1.M.K	64 mm	203 mm	286	80	137	195	105
REF1.0.N.G.067.2.M.K	2-5/8"	203 mm	286	80	137	195	105

Ball Valves SAE FLARE ODS-SAE FLARE



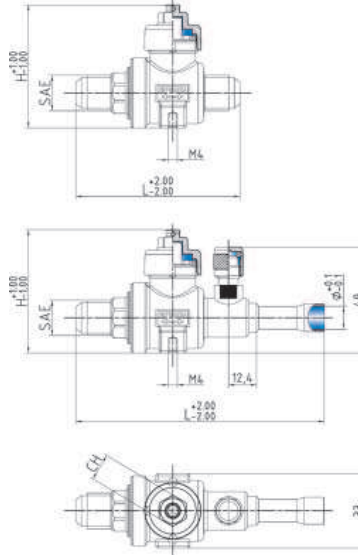
IT Si realizzano valvole in esecuzioni speciali filettate-filettate oppure filettate-a saldare.

UK Special executions flare or sweat-flare are available.

DE Bördel oder Bördel-Löt Ausführengen sind möglich.

FR Exécutions spéciales flare ou sweat-flare sont disponibles.

CZ Özel rakorlu bağlantılar ve rakor-kaynak bağlantılar mevcuttur.



Legenda simboli

Dimensions

Code	Dimensions	Sphere passage	Length	Height	Connections diameter	Spanner meas.	Kv factor	ODS	Thread
REF	DN (ODS)	(mm)	L (mm)	H (mm)	∅ (mm)	CH (mm)	DDP=1bar (m ³ /h)	SAE	UNF
REF1.0.N.A.006.4	1/4" SAE	10	74	56,5	-	18	0,8	-	7/16"-20UNF
REF1.0.N.A.010.4	3/8" SAE	10	74	56,5	-	18	3,5	-	5/8"-18UNF
REF1.0.S.A.006.1.F14	6 mm	10	116	56,5	6,1	18	0,6	1/4"	7/16"-20UNF
REF1.0.S.A.006.1.F38	6 mm	10	116	56,5	6,1	18	0,8	3/8"	5/8"-18UNF
REF1.0.S.A.006.2.F14	1/4"	10	116	56,5	6,4	18	0,6	1/4"	7/16"-20UNF
REF1.0.S.A.006.2.F38	1/4"	10	116	56,5	6,4	18	0,8	3/8"	5/8"-18UNF
REF1.0.S.A.008.3.F14	8 mm	10	116	56,5	8,1	18	0,6	1/4"	7/16"-20UNF
REF1.0.S.A.008.3.F38	8 mm	10	116	56,5	8,1	18	1,2	3/8"	5/8"-18UNF
REF1.0.S.A.010.1.F14	10 mm	10	116	56,5	10,2	18	0,6	1/4"	7/16"-20UNF
REF1.0.S.A.010.1.F38	10 mm	10	116	56,5	10,2	18	1,2	3/8"	5/8"-18UNF
REF1.0.S.A.010.2.F14	3/8"	10	116	56,5	9,7	18	0,6	1/4"	7/16"-20UNF
REF1.0.S.A.010.2.F38	3/8"	10	116	56,5	9,7	18	1,2	3/8"	5/8"-18UNF
REF1.0.S.A.012.1.F14	12 mm	10	116	56,5	12,2	18	0,6	1/4"	7/16"-20UNF
REF1.0.S.A.012.1.F38	12 mm	10	116	56,5	12,2	18	1,2	3/8"	5/8"-18UNF
REF1.0.S.A.012.2.F14	1/2"	10	116	56,5	12,8	18	0,6	1/4"	7/16"-20UNF
REF1.0.S.A.012.2.F38	1/2"	10	116	56,5	12,8	18	1,2	3/8"	5/8"-18UNF

Valvole a Sfera SAE ODS-SAE Ball Valves SAE FLARE ODS-SAE FLARE



Safety Valves



Interamente realizzate in ottone, le valvole di sicurezza garantiscono protezione contro eventuali sovrappressioni, rispetto alle condizioni di esercizio di progetto, delle componenti di sistemi di refrigerazione o condizionamento.

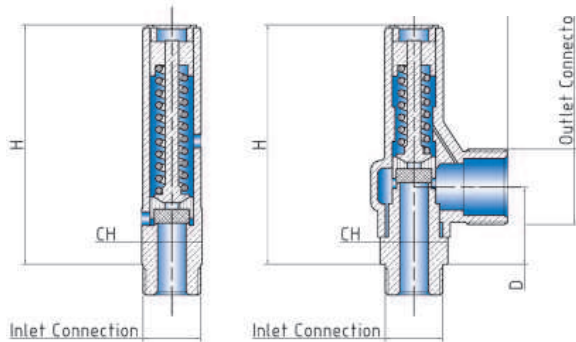
Un Completely made of brass, safety valves grant protection against possible overpressures of the refrigerating systems with regards to the operating conditions for which they have been designed.

Vollständig bewilligen gebildet aus Messing, bewilligen Die Sicherheitventile

Schutz gegen mögliche ueberdrueche Faelle der kühlenden Systeme in bezug auf die Betriebsbedingungen, für die sie bestimmt worden sind.

Entièrement réalisées en laiton, les soupapes de sécurité garantissent protection contre les surpressions éventuelles, pur rapport aux conditions de service pour lesquelles elles ont été conçues, des composants de systèmes de réfrigération.

Tamamen pirinç dköüm olan emniyet vanaları, soğutma sistemlerindeki aşırı basınç artışlarına karşı koruma sağlar.



SCARICO LIBERO
FREE OUTLET

SCARICO CONVOGLIATO
PIPED OUTLET

Legenda simboli

Dimensions

Code	Flow Diam.	H	D	B	CH	Inlet Connection	Outlet Connection	Setting	PN	OverP	Kv <small>100°-bar</small>
	(mm)	(mm)	(mm)	(mm)	(mm)	NPT	GAS	(bar)	(bar)		(m ³ /h)
FREE OUTLET											
REF80.14.00.07.300	7	52	-	-	-	1/4"	FREE	30	40	10%	0,58
REF80.38.00.07.300	7	52	-	-	-	3/8"	FREE	30	40	10%	0,58
REF80.38.00.10.300	10	62	-	-	-	3/8"	FREE	30	40	10%	0,65
REF80.12.00.10.300	10	62	-	-	-	1/2"	FREE	30	40	10%	0,65
PIPED OUTLET											
REF80.14.12.07.300	7	70	28	35	25	1/4"	1/2"	30	40	10%	0,58
REF80.38.12.07.300	7	88	30	30	25	3/8"	1/2"	30	40	10%	0,65
REF80.38.34.10.300	10	88	30	30	25	3/8"	3/4"	30	40	10%	0,65
REF80.12.34.10.300	10	134	33	49	30	1/2"	3/4"	30	40	10%	0,81
REF80.12.01.13.300	13	134	33	49	30	1/2"	1"	30	40	10%	0,81
REF80.34.01.13.300	13	134	33	49	30	3/4"	1"	30	40	10%	0,81
REF80.01.11.20.300	20	168	40	59	40	1"	1-1/4"	30	40	10%	0,91

*: ON REQUEST ALL TYPES ARE AVAILABLE IN THE FOLLOWING SETTING PRESSURES: from 0,5 BAR up to 60 BAR

Valvole di Sicurezza Safety Valves



3Way Changeover Valves



Valvole Deviatrici a 3 Vie 3Way Changeover Valves



I La valvola deviatrici è un rubinetto di servizio tra due valvole di sicurezza che esclude alternativamente l'una o l'altra permettendo interventi sull'impianto. Il rubinetto assicura una caduta di pressione compatibile con il funzionamento dei dispositivi di sicurezza in condizioni di scarico sia di vapore saturo che di vapore surriscaldato.

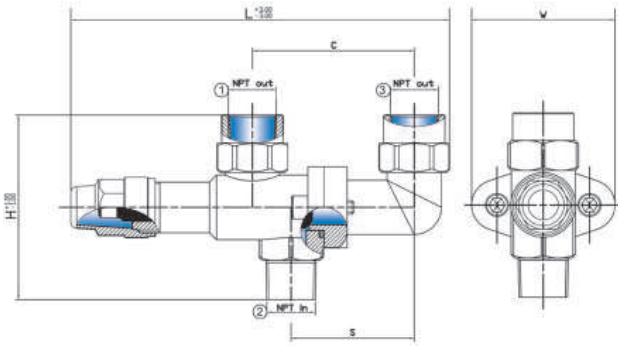
UK The changeover is a service device for safety valves that allows using one valve while isolating the other from the system. The valve ensures a pressure drop compatible with the safety valve operation under condition of discharge of saturated or overheated vapour.

D Der Hahn wurde so entworfen, dass beide Sicherheitsventile niemals gleichzeitig ausgeschlossen werden können. Der Hahn gewährleistet einen

Druckabfall, der mit der Funktion der Sicherheitseinrichtung bei Ablassen sowohl von gesättigtem als auch von überhitztem Dampf, völlig kompatibel ist.

F La vanne d'échange a la tâche de vanne de service pour un couple de soupapes de sécurité en permettant simultanément l'utilisation de l'une et l'exclusion de l'autre. La vanne assure une chute de pression parfaitement compatible avec le fonctionnement du dispositif de sécurité en conditions d'évacuation aussi bien de la vapeur saturée que de la vapeur surchauffée.

C Geçiş özelliği, ikili emniyet vanasında bir vana sisteminde kullanılırken, diğerini tamamen sistemden izole eder. Vana, doymuş yada aşırı ısınmış buharın sistemden atılması sırasında emniyet vanasına uygun bir basınç düşümü sağlar.



Legenda simboli

Dimensions

Code	NPT1	NPT2	NPT3	H	L	S	C	W
REF	DN	DN	DN	(mm)	(mm)	(mm)	(mm)	(mm)
REF2.0.012.012.012	1/2"	1/2"	1/2"	85	164	53,5	70	62
REF2.0.012.034.012	1/2"	3/4"	1/2"	90	220	66,5	91	80
REF2.0.034.034.034	3/4"	3/4"	3/4"	90	220	66,5	91	80
REF2.0.100.100.100	1"	1"	1"	124	290	72,5	110	100
REF2.0.100.114.100	1"	1-1/4"	1"	124	290	72,5	110	100

NPT Valves



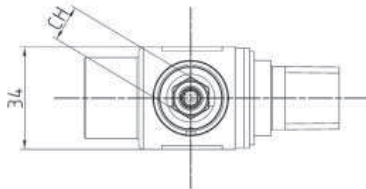
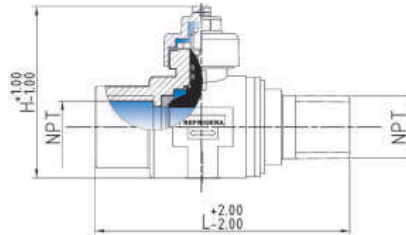
IT Le valvole NPT sono adatte per essere utilizzate assieme alle valvole di sicurezza dello stesso diametro nominale.

FR Les vannes NPT sont appropriées pour être utilisées avec les soupapes de sûreté du même diamètre nominal.

UK NPT Valves suitable to be used together with safety valve of the same Nominal Diameter.

TR NPT Vanalar, aynı nominal çaptaki emniyet vanaları ile beraber kullanıma uygundur.

DE Unsere NPT Ventile sind geeignet fuer die Verwendung zusammen mit dem Sicherheitsventil mit gleichem Durchmesser.



Legenda simboli



Valvole NPT NPT Valves



Dimensions

Code	Dimensions	Weight	Sphere passage	Length	Height	Spanner meas.	Kv factor
REF	DN	(g)	(mm)	L (mm)	H (mm)	CH (mm)	DDP=1bar (m ³ /h)
REF1.0.P.B.012.1.N	1/2"	360	15	85	56,5	20	13
REF1.0.P.C.001.1.N	1"	898	20	120	85	20	24

*P=	Piombate con filo	sealed with lead	Plombiert mit Faden	plombées avec fil
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Check Valves



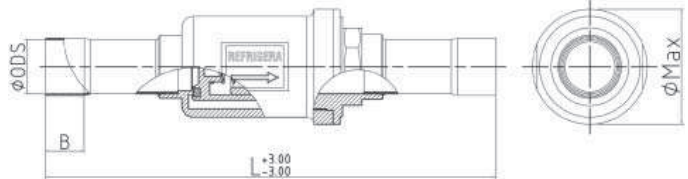
I Le nostre valvole di ritegno possono essere montate in qualunque posizione e offrono il migliore fattore di flusso con la minima perdita di carico.

UK Our Check Valves can be mounted in every position and offer the best performance with reduced pressure drops.

D Unsere Rueckschlagventile koennen in alles Positionen montiert werden und dieten die beste Leistung mit reduzierten Druckvers.

F Notre Clapets peut être monté dans toutes les positions et offrir la meilleure performance avec une baisse de la pression réduite.

C Check Valflerimiz; her yönde monte edilebilirler ve basınç düşümlerinde en iyi performansı sağlarlar.



Legenda simboli

Dimensions

Code	Dimensions	Weight	ODS	B	Length	Ø Max	KV DDP=1bar
REF	DN	(g)	(mm)	(mm)	(mm)	(mm)	(m ³ /h)
REF3.0.N.006.1	6 mm	88	6,1	7	107	24	0,68
REF3.0.N.006.2	1/4"	95	6,4	7	107	24	0,68
REF3.0.N.008.3	8 mm (5/16")	95	8,1	8	107	24	1,00
REF3.0.N.010.1	10 mm	96	10,2	9	112	24	1,40
REF3.0.N.010.2	3/8"	96	9,7	9	112	24	1,40
REF3.0.N.012.1	12 mm	100	12,2	12	121	24	2,95
REF3.0.N.012.2	1/2"	100	12,8	12	121	37	2,95
REF3.0.N.015.1	15 mm	280	15,2	12	155	37	4,10
REF3.0.N.016.3	16 mm (5/8")	280	16,2	14	155	37	4,10
REF3.0.N.018.1	18 mm	305	18,2	14	155	37	4,55
REF3.0.N.018.2	3/4"	305	19,3	14	155	37	4,55
REF3.0.N.022.3	22 mm (7/8")	345	22,3	17	180	37	5,10
REF3.0.N.028.1	28 mm	1100	28,2	20	230	60	12,75
REF3.0.N.028.2	1-1/8"	1100	28,8	20	230	60	12,75
REF3.0.N.035.3	35 mm (1-3/8")	1736	35,2	25	235	70	24,90
REF3.0.N.042.1	42 mm	2560	42,2	28	270	80	35,06
REF3.0.N.042.2	1-5/8"	2580	41,5	28	270	80	35,06
REF3.0.N.054.3	54 mm (2-1/8")	3570	54,3	34	300	98	60,50
REF3.0.N.064.1.W	64 mm	3570	64,0	34	300	98	60,50
REF3.0.N.067.2.W	2-5/8"	3722	66,8	36	362	98	60,50
REF3.0.N.064.1	64 mm	4800	64,0	36	310	118	130,00
REF3.0.N.067.2	2-5/8"	4800	66,8	36	310	118	130,00
REF3.0.N.076.3	76 mm (3")	4800	76,1	36	362	118	144,50
REF3.0.N.080.3	80 mm (3-1/8")	4800	80,0	36	362	118	144,50

W: Reduced Port

N: standard spring valve with minimum Opening Pressure Differential = 0,1 bar

R: reinforced spring valve with minimum Opening Pressure Differential = 0,3 bar

Valvole di Ritegno Check Valves



Flanged Compressors Valves



I *Interamente realizzate in ottone, le valvole REFRIGERA hanno la peculiare caratteristica di essere provviste di perno in acciaio INOX, permettendo l'inalterabilità nel tempo di tutte le parti.*

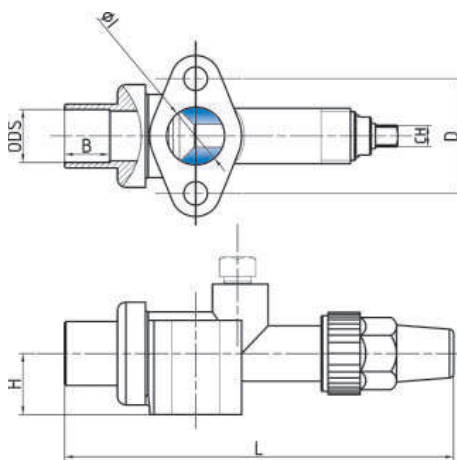
UK *Completely made of brass, REFRIGERA valves have the peculiar value to be provided with INOX rod that assure corrosion resistance of all parts.*

D *Total aus Messing, die REFRIGERA Ventile haben die besondere Eigenschaft dass die Spindel aus Edelstahl. Gleichzeitig garantieren wir eine langlebige Dauer.*

F *Entièrement réalisées en laiton, les rotalock REFRIGERA ont la caractéristique d'être pourvues avec le pivot en INOX. Grâce a cette particularité, le matériel préserve la vanne des éventuels problèmes de corrosion.*

C *Tamamen pirinç dökmünden yapılan REFRIGERA vanalarının bağlantılarının (connessione) INOX veya pirinç olması. Aynı zamanda bu malzemeler korozyona karşı dayanıklıdır.*

Valvole Flangiate PER COMPRESSORI Flanged Compressor Valves



Legenda simboli

Dimensions

Code	ODS	Connection Diameter	Max- Length	Height	Spanner Meas	B	D	ØI
REF	DN	(mm)	L (mm)	H (mm)	CH (mm)	B (mm)	D (mm)	ØI (mm)
REF25.15.43.016	5/8"	16,2	117	20,5	8	10	43	15
REF25.16.41.034	3/4"	19,05	139,5	22	8	16	41,3	20,6
REF25.15.51.001	1"	25,2	147,5	20,5	8	15	50,5	22
REF25.16.45.118	1-1/8"	28,9	175,5	22	8	23	44,5	28,7

1" Rotalock Valves



I *Interamente realizate in ottone, le valvole REFRIGERA hanno la peculiare caratteristica di essere provviste di tronchetti a saldare in rame e perno in acciaio INOX, permettendo, da un lato, il perfetto accoppiamento mediante brasatura a cannello con le consuete leghe rame fosforo e garantendo, dall'altro, l'inalterabilità nel tempo di tutte le parti.*

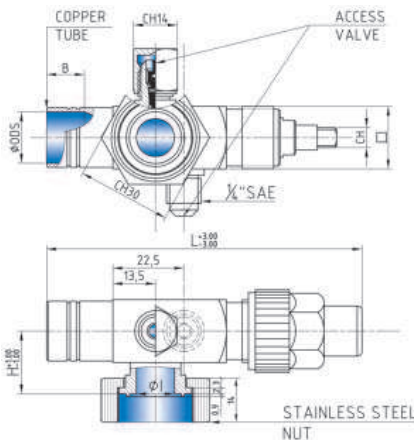
U *Completely made of brass, REFRIGERA valves have the peculiar value to be provided with copper tube and INOX rod that assure easy torch-brazing with the normal filler metals for Cu to Cu joint and, on the other hand, corrosion resistance of all parts.*

D *Total aus Messing, die REFRIGERA Rotalockventile haben die besondere Eigenschaft dass die Loetstuezen aus Kupfer und Spindel aus Edelstahl sind. Ausserdem sind die Rotalock Muttern bis 1-1/4" aus Edelstahl. Insgesamt stellen*

unsere Rotalockventile ein ganz neuen Konzept dar. Erlauben eine einfache und schnelle Loetung Eigenschaft (Kupfer - Phosphor Loetmittel statt Silberloet) und gleichzeitig garantieren wir eine langlebige Loetverbindung.

E *Entièrement réalisées en laiton, les rotalock REFRIGERA ont la caractéristique d'être pourvues des connections à souder en cuivre avec le pivot en INOX. Grâce a cette particularité, d'une partie, la brasure avec les habituels alliages (pour la jonction Cu-Cu) est plus rapide et facile, de l'autre partie, le type de matériel préserve la vanne des éventuels problèmes de corrosion.*

T *Tamamen pirinç dökümden yapılan REFRIGERA vanalarının bağlantılarının INOX veya pirinç olması, ve diğer tarafının bakır olması bakır veya diğer taraflarına kaynak yapılmasını kolaylaştırır. Aynı zamanda bu malzemeler korozyona karşı dayanıklıdır.*

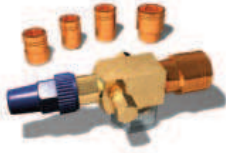


Legenda simboli

Dimensions

Code	ODS	Connection diameter	Weight	Max Overall Length	Spanner meas.	B	□	ØI
REF	DN	Ø (mm)	(g)	L (mm)	CH (mm)	(mm)	(mm)	(mm)
REF22.42.20.006	6 mm	6,1	258	108	6,35	15	20	12
REF22.42.20.014	1/4"	6,4	258	108	6,35	12	20	12
REF22.42.20.010	10 mm	10,2	268	108	6,35	12	20	12
REF22.42.20.038	3/8"	9,7	268	108	6,35	12	20	12
REF22.42.20.012	12 mm	12,2	272	108	6,35	12	20	12
REF22.42.20.127	1/2"	12,8	272	108	6,35	12	20	12
REF22.42.20.016	16 mm 5/8"	16,2	284	108	6,35	12	20	12
REF22.42.20.018	18 mm	18,2	284	112	6,35	12	20	12
REF22.42.20.034	3/4"	19,3	292	112	6,35	12	20	12
REF22.42.20.022	22 mm 7/8"	22,3	292	112	6,35	12	20	12

1-1/4" Rotalock Valves



I *Interamente realizzate in ottone, le valvole REFRIGERA hanno la peculiare caratteristica di essere provviste di tronchetti a saldare in rame e perno in acciaio INOX, permettendo, da un lato, il perfetto accoppiamento mediante brasatura a cannello con le consuete leghe rame fosforo e garantendo, dall'altro, l'inalterabilità nel tempo di tutte le parti.*

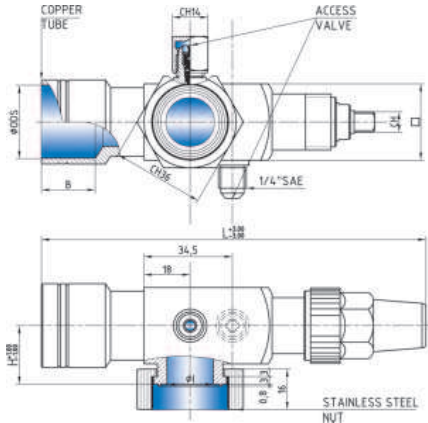
U *Completely made of brass, REFRIGERA valves have the peculiar value to be provided with copper tube and INOX rod that assure easy torch-brazing with the normal filler metals for Cu to Cu joint and, on the other hand, corrosion resistance of all parts.*

D *Total aus Messing, die REFRIGERA Rotalockventile haben die besondere Eigenschaft dass die Loetstuezen aus Kupfer und Spindel aus Edelstahl sind. Ausserdem sind die Rotalock Muttern bis 1-1/4" aus Edelstahl. Insgesamt stellen unsere*

Rotalockventile ein ganz neuen Konzept dar. Erlauben eine einfache und schnelle Loetzung Eigenschaft (Kupfer - Phosphor Loetmittel statt Silberloet) und gleichzeitig garantieren wir eine langlebige Loetverbindung.

F *Entièrement réalisées en laiton, les rotalock REFRIGERA ont la caractéristique d'être pourvues des connections à souder en cuivre avec le pivot en INOX. Grâce a cette particularité, d'une partie, la brasure avec les habituels alliages (pour la jonction Cu-Cu) est plus rapide et facile, de l'autre partie, le type de matériel préserve la vanne des éventuels problèmes de corrosion.*

T *Tamamen pirinç dövümden yapılan REFRIGERA vanalarının bağlantılarının INOX veya pirinç olması, ve diğer taraflarının bakır olması bakır veya diğer alaşımlarla kaynak yapılmasını kolaylaştırır. Aynı zamanda bu malzemeler korozyona karşı dayanıklıdır.*



Legenda simboli

Dimensions

Code	ODS	Connection diameter	Weight	Max Over-all Length	Spanner meas.	B	□	∅I
REF	DN	∅ (mm)	(g)	L (mm)	CH (mm)	(mm)	(mm)	(mm)
REF22.43.22.010	10 mm	10,2	314	110	6,35	12	22	14
REF22.43.22.038	3/8"	9,7	320	110	6,35	12	22	14
REF22.43.22.012	12 mm	12,2	320	110	6,35	12	22	14
REF22.43.22.127	1/2"	12,8	320	110	6,35	12	22	14
REF22.43.22.016	16 mm 5/8"	16,2	320	112	6,35	12	22	14
REF22.43.22.018	18 mm	18,2	335	112	6,35	16	22	14
REF22.43.22.034	3/4"	19,3	335	112	6,35	16	22	14
REF22.43.30.018	18 mm	18,2	515	140	8,00	20	30	14
REF22.43.30.034	3/4"	19,3	515	140	8,00	20	30	14
REF22.43.30.022	22 mm 7/8"	22,3	535	142	8,00	20	30	14
REF22.43.30.028	28 mm	28,2	535	150	8,00	20	30	14
REF22.43.30.118	1-1/8"	28,8	535	150	8,00	20	30	14

Valvole Rotalock 1-1/4" 1-1/4" Rotalock Valves



1-3/4" Rotalock Valves



Interamente realizzate in ottone, le valvole REFRIGERA hanno la peculiare caratteristica di essere provviste di tronchetti a saldare in rame e perno in acciaio INOX, permettendo, da un lato, il perfetto accoppiamento mediante brasatura a cannello con le consuete leghe rame fosforo e garantendo, dall'altro, l'inalterabilità nel tempo di tutte le parti.

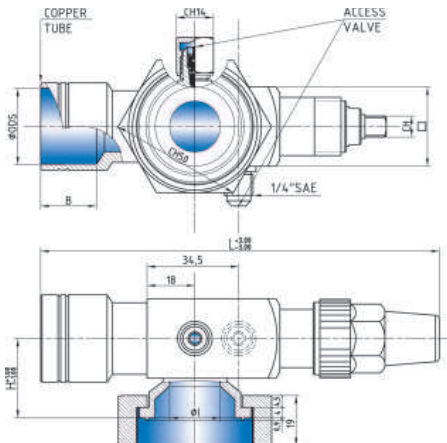
Completely made of brass, REFRIGERA valves have the peculiar value to be provided with copper tube and INOX rod that assure easy torch-brazing with the normal filler metals for Cu to Cu joint and, on the other hand, corrosion resistance of all parts.

Total aus Messing, die REFRIGERA Rotalockventile haben die besondere Eigenschaft dass die Loetstuezen aus Kupfer und Spindel aus Edelstahl sind. Ausserdem sind die Rotalock Muttern bis 1-1/4" aus Edelstahl. Insgesamt stellen

unsere Rotalockventile ein ganz neuen Konzept dar. Erlauben eine einfache und schnelle Loetung Eigenschaft (Kupfer - Phosphor Loetmittel statt Silberloet) und gleichzeitig garantieren wir eine langlebige Loetverbindung.

Entièrement réalisées en laiton, les rotalock REFRIGERA ont la caractéristique d'être pourvues des connections à souder en cuivre avec le pivot en INOX. Grâce à cette particularité, d'une partie, la brasure avec les habituels alliages (pour la jonction Cu-Cu) est plus rapide et facile, de l'autre partie, le type de matériel préserve la vanne des éventuels problèmes de corrosion.

Tamamen pirinç dökümden yapılan REFRIGERA vanalarının bağlantılarının INOX veya pirinç olması, ve diğer tarafının bakır olması bakır veya diğer alaşımlarla kaynak yapılmasını kolaylaştırır. Aynı zamanda bu malzemeler korozyona karşı dayanıklıdır.



Legenda simboli

Dimensions

Code	ODS	Connection diameter	Weight	Max Overall Length	Spanner meas.	B	□	ØI
REF	DN	Ø (mm)	(g)	L (mm)	CH (mm)	(mm)	(mm)	(mm)
REF22.44.30.018	18 mm	18,2	650	145	8,00	20	30	18
REF22.44.30.034	3/4"	19,3	650	145	8,00	20	30	18
REF22.44.30.022	22 mm 7/8"	22,3	600	145	8,00	20	30	18
REF22.44.30.028	28 mm	28,2	614	150	8,00	20	30	18
REF22.44.30.118	1-1/8"	28,8	614	150	8,00	20	30	18
REF22.44.35.028	28 mm	28,2	614	165	9,60	20	35	18
REF22.44.35.118	1-1/8"	28,8	792	165	9,60	20	35	18
REF22.44.35.035	35 mm 1-3/8"	35,2	792	170	9,60	20	35	18
REF22.44.35.042	42 mm	42,2	814	170	9,60	20	35	18
REF22.44.35.158	1-5/8"	41,5	928	170	9,60	20	35	18

Valvole Rotalock 1-3/4" 1-3/4" Rotalock Valves



2-1/4" Rotalock Valves



I *Interamente realizzate in ottone, le valvole REFRIGERA hanno la peculiare caratteristica di essere provviste di tronchetti a saldare in rame e perno in acciaio INOX, permettendo, da un lato, il perfetto accoppiamento mediante brasatura a cannello con le consuete leghe rame fosforo e garantendo, dall'altro, l'inalterabilità nel tempo di tutte le parti.*

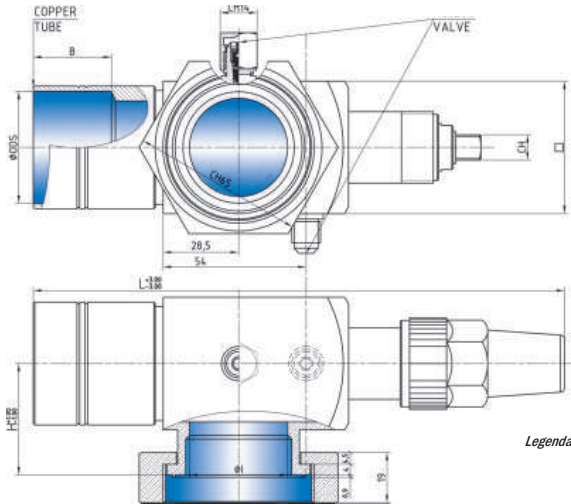
U *Completely made of brass, REFRIGERA valves have the peculiar value to be provided with copper tube and INOX rod that assure easy torch-brazing with the normal filler metals for Cu to Cu joint and, on the other hand, corrosion resistance of all parts.*

D *Total aus Messing, die REFRIGERA Rotalockventile haben die besondere Eigenschaft dass die Loetstuezen aus Kupfer und Spindel aus Edelstahl sind. Ausserdem sind die Rotalock Muttern bis 1-1/4" aus Edelstahl. Insgesamt stellen*

unsere Rotalockventile ein ganz neuen Konzept dar. Erlauben eine einfache und schnelle Loetung Eigenschaft (Kupfer - Phosphor Loetmittel statt Silberloet) und gleichzeitig garantieren wir eine langlebige Loetverbindung.

E *Entièrement réalisées en laiton, les rotalock REFRIGERA ont la caractéristique d'être pourvues des connections à souder en cuivre avec le pivot en INOX. Grâce à cette particularité, d'une partie, la brasure avec les habituels alliages (pour la jonction Cu-Cu) est plus rapide et facile, de l'autre partie, le type de matériel préserve la vanne des éventuels problèmes de corrosion.*

T *Tamamen pirinç dökümden yapılan REFRIGERA vanalarının bağlantılarının INOX veya pirinç olması, ve diğer tarafının bakır olması bakır veya diğer alaşımlarka kaynak yapılmasını kolaylaştırır. Aynı zamanda bu malzemeler korozyona karşı dayanıklıdır.*



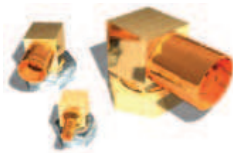
Legenda simboli

Valvole Rotalock 2-1/4" 2-1/4" Rotalock Valves

Dimensions

Code	ODS	Connection diameter	Weight	Max Overall Length	Spanner meas.	B	□	Ø1
REF	DN	∅ (mm)	(g)	L (mm)	CH (mm)	(mm)	(mm)	(mm)
REF22.45.50.035	35 mm 1-3/8"	35,2	1620	200	9,60	30	50	39
REF22.45.50.042	42 mm	42,2	1650	200	9,60	30	50	39
REF22.45.50.158	1-5/8"	41,5	1650	200	9,60	30	50	39
REF22.45.50.054	54 mm 2-1/8"	54,3	1690	200	9,60	30	50	39

Rotalock Angle Adapters



Raccordi ad Angolo Rotalock Rotalock Angle Adapters

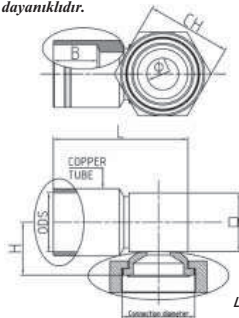
I *Interamente realizzati in ottone, i rotalock REFRIGERA hanno la peculiare caratteristica di essere provvisti di tronchetti a saldare in rame e girello in ottone o acciaio INOX permettendo, da un lato, il perfetto accoppiamento mediante brasatura a cannello con le consuete leghe rame fosforo e garantendo, dall'altro, l'inalterabilità nel tempo di tutte le parti.*

U *Completely made of brass, REFRIGERA rotalock have the peculiar value to be provided with copper tube and INOX or brass nut that assure easy torch-brazing with the normal filler metals for Cu to Cu joint and, on the other hand, corrosion resistance of all parts.*

T *Total aus Messing, die Rotalock REFRIGERA haben die besondere Eigenschaft dass die Loetstuezen in Kupfer, Mutter in Messing oder Edelstahl ausgefuehrt sind deshalb erlauben eine einfache und schnelle Loetung Eigenschaft (Kupfer - Phosphor Loetmittel statt Silberloet) und gleichzeitig garantieren wir eine langlebige Loetverbindung.*

E *Entièrement réalisées en laiton, les rotalock REFRIGERA ont la caractéristique d'être pourvus des connexions à souder en cuivre et l'écrue en laiton ou en INOX. Grâce à cette particularité, d'une partie, la brasure avec les habituels alliages (pour la jonction Cu-Cu) est plus rapide et facile, de l'autre partie, le type de matériel préserve la vanne des éventuels problèmes de corrosion.*

R *REFRIGERA rotalock bağlantılarının sanunlarının INOX veya pirinc olması, ve diğer tarafının bakır olması bakır veya diğer alaşımlarla kaynak yapılmasını kolaylaştırır. Aynı zamanda bu malzemeler korozyona karşı dayanıklıdır.*



Legenda simboli

Dimensions

Code	ODS	Connections diameter	Weight	Overall Length	Height	B	□	∅ I	Rotalock
REF	DN	∅ ODS (mm)	(g)	L (mm)	H (mm)	(mm)	(mm)	(mm)	CH (mm)
ROTALOCK 1" - 14UNF	(INOX NUT)								
REF42.02.20.010	10 mm	10,2	70	40	20	10	20	12	30
REF42.02.20.038	3/8"	9,7	72	40	20	10	20	12	30
REF42.02.20.012	12 mm	12,2	72	40	20	10	20	12	30
REF42.02.20.127	1/2"	12,8	76	40	20	10	20	12	30
REF42.02.20.016	16 mm - 5/8"	16,2	76	40	20	10	20	12	30
REF42.02.20.018	18 mm	18,2	124	40	20	10	20	12	30
REF42.02.20.034	3/4"	19,3	124	40	20	10	20	12	30
REF42.02.20.022	22 mm - 7/8"	22,3	124	40	20	10	20	12	30
ROTALOCK 1-1/4" - 12UNF	(INOX NUT)								
REF42.03.22.016	16 mm - 5/8"	16,2	124	55	23	12	22	20	35
REF42.03.30.018	18 mm	18,2	126	55	23	16	30	20	35
REF42.03.30.034	3/4"	19,3	126	55	23	16	30	20	35
REF42.03.30.022	22 mm - 7/8"	22,3	124	55	23	20	30	20	35
REF42.03.30.028	28 mm	28,2	160	55	23	20	30	20	35
REF42.03.30.118	1-1/8"	28,8	160	55	23	20	30	20	35
ROTALOCK 1-3/4" - 12UN	(BRASS NUT)								
REF42.04.35.028	28 mm	28,2	230	68	30	20	35	30	50
REF42.04.35.118	1-1/8"	28,8	242	68	30	20	35	30	50
REF42.04.35.035	35 mm	35,2	296	68	30	20	35	30	50
REF42.04.35.042	42 mm	42,2	312	68	30	20	35	30	50
REF42.04.35.158	1-5/8"	41,5	312	68	30	20	35	30	50
ROTALOCK 2-1/4" - 12UN	(BRASS NUT)								
REF42.05.50.035	35 mm	35,2	450	86	35	24,5	50	40	65
REF42.05.50.042	42 mm	42,2	494	86	35	24,5	50	40	65
REF42.05.50.158	1-5/8"	41,5	494	86	35	24,5	50	40	65
REF42.05.50.054	2-1/8"	28,8	556	86	35	24,5	50	40	65

Rotalock Straight Adapters

I I rotalock REFRIGERA hanno la peculiare caratteristica di essere provvisti di tronchetti a saldare in rame e girolo in ottone o acciaio INOX permettendo, da un lato, il perfetto accoppiamento mediante brasatura a cannello con le consuete leghe rame fosforo e garantendo, dall'altro, l'inalterabilità nel tempo di tutte le parti.

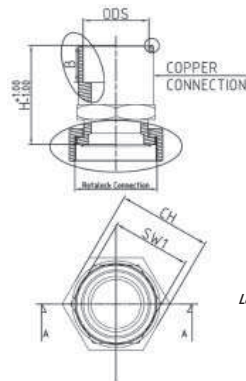
REFRIGERA rotalock have the peculiar value to be provided with copper tube and INOX or brass nut that assure easy torch-brazing with the normal filler metals for Cu to Cu joint and, on the other hand, corrosion resistance of all parts.

Die REFRIGERA Rotalock haben die besondere Eigenschaft dass die Loetzuezen in Kupfer, Mutter in Messing oder Edelstahl ausgefuehrt sind deshalb erlauben eine einfache und schnelle Loetung Eigenschaft (Kupfer - Phosphor Loetmittel statt Silberloet) und gleichzeitig garantieren wir eine langlebige Loetverbindung.

Les rotalock REFRIGERA ont la caractéristique d'être pourvues des connexions à souder en cuivre et l'écrû en laiton ou en INOX. Grâce à cette particularité, d'une partie, la brasure avec les habituels

alliages (pour la jonction Cu-Cu) est plus rapide et facile, de l'autre partie, le type de matériel préserve la vanne des éventuels problèmes de corrosion.

REFRIGERA rotalock bağlantılarının somunlarının INOX veya pirinç olması, ve diğer tarafının bakır olması bakır veya diğer alaşımlarla kaynak yapılmasını kolaylaştırır. Aynı zamanda bu malzemeler korozyona karşı dayanıklıdır.



Legenda simboli

Dimensions

Code	Rotalock Connection	ODS	Connection Diameter	Weight	H	B	SW1	CH
		DN	(mm)	(g)	(mm)	(mm)	(mm)	(mm)
REF								
ROTALOCK 1" - 14UNF	(INOX NUT)							
REF32.02.00.010	1" - 14UNS	10 mm	10,2	106	31,5	12,5	22	30
REF32.02.00.038	1" - 14UNS	3/8"	9,7	106	31,5	12,5	22	30
REF32.02.00.012	1" - 14UNS	12 mm	12,2	108	31,5	12,5	22	30
REF32.02.00.127	1" - 14UNS	1/2"	12,8	108	31,5	12,5	22	30
REF32.02.00.016	1" - 14UNS	16 mm 5/8"	16,2	112	31,5	12,5	22	30
REF32.02.00.018	1" - 14UNS	18 mm	18,2	114	31,5	12,5	22	30
REF32.02.00.034	1" - 14UNS	3/4"	19,3	114	31,5	12,5	22	30
REF32.02.00.022	1" - 14UNS	22 mm 7/8"	22,3	116	31,5	12,5	22	30
ROTALOCK 1-1/4" - 12UNF	(INOX NUT)							
REF32.03.00.016	1-1/4" - 12UNF	16 mm 5/8"	16,2	162	42,5	15,5	27	35
REF32.03.00.018	1-1/4" - 12UNF	18 mm	18,2	170	42,5	15,5	27	35
REF32.03.00.034	1-1/4" - 12UNF	3/4"	19,3	250	42,5	15,5	27	35
REF32.03.00.022	1-1/4" - 12UNF	22 mm 7/8"	22,3	272	42,5	15,5	27	35
REF32.03.00.028	1-1/4" - 12UNF	28 mm	28,2	296	42,5	15,5	36	35
REF32.03.00.118	1-1/4" - 12UNF	1-1/8"	28,2	296	42,5	15,5	36	35
ROTALOCK 1-3/4" - 12UN	(BRASS NUT)							
REF32.04.00.022	1-3/4" - 12UN	22 mm 7/8"	22,3	280	51,5	20,5	36	50
REF32.04.00.028	1-3/4" - 12UN	28 mm	28,2	-	51,5	20,5	36	50
REF32.04.00.118	1-3/4" - 12UN	1-1/8"	28,8	-	51,5	20,5	36	50
REF32.04.00.035	1-3/4" - 12UN	1-3/8"	35,2	-	51,5	20,5	36	50
REF32.04.00.042	1-3/4" - 12UN	42 mm	42,2	-	51,5	20,5	36	50
REF32.04.00.158	1-3/4" - 12UN	1-5/8"	41,5	-	51,5	20,5	36	50
ROTALOCK 2-1/4" - 12UN	(BRASS NUT)							
REF32.05.00.042	2-1/4" - 12UN	42 mm	42,2	942	61,5	25,5	50	65
REF32.05.00.158	2-1/4" - 12UN	1-5/8"	41,5	-	61,5	25,5	50	65
REF32.05.00.054	2-1/4" - 12UN	54 mm 2-1/8"	54,3	-	67,5	31,5	50	65

Raccordi diritti Rotalock Rotalock Straight Adapters



Angle Valves



I *Interamente realizzati in ottone, le valvole REFRIGERA hanno la peculiare caratteristica di essere provvisti di tronchetti a saldare in rame e perno in acciaio INOX, permettendo, da un lato, il perfetto accoppiamento mediante brasatura a cannello con le consuete leghe rame fosforo e garantendo, dall'altro, l'inalterabilità nel tempo di tutte le parti.*

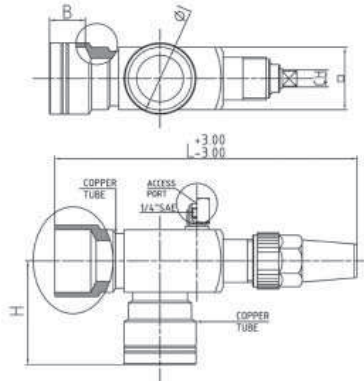
U *Completely made of brass, REFRIGERA valves have the peculiar value to be provided with copper tube and INOX rod that assure easy torch-brazing with the normal filler metals for Cu to Cu joint and, on the other hand, corrosion resistance of all parts.*

D *Total aus Messing, die REFRIGERA Eckventile haben die besondere Eigenschaft dass die Loetstuetzen aus Kupfer und Spindel aus Edelstahl sind deshalb erlauben*

eine einfache und schnelle Loetzung (Kupfer - Phosphor Loetmittel statt Silberloet) und gleichzeitig garantieren wir eine langlebige Loetverbindung.

E *Entièrement réalisées en laiton, les rotalock REFRIGERA ont la caractéristique d'être pourvues des connections à souder en cuivre avec le pivot en INOX. Grâce a cette particularité, d'une partie, la brasure avec les habituels alliages (pour la jonction Cu-Cu) est plus rapide et facile, de l'autre partie, le type de matériel préserve la vanne des éventuels problèmes de corrosion.*

T *Tamamen pirinç dökümden yapılan REFRIGERA vanalarının bağlantılarının INOX veya pirinç olması, ve diğer taraflarının bakır olması bakır veya diğer alaşımrlarka kaynak yapılmasını kolaylaştırır. Aynı zamanda bu malzemeler korozyona karşı dayanıklıdır.*



Legenda simboli

Dimensions

Code	ODS	Connections diameter	Overall Length	Height	Spanner meas.	B	□	ØI
	DN	∅ (mm)	L (mm)	H (mm)	CH (mm)	(mm)	(mm)	(mm)
REF								
REF23.10.20.010.1.D	10 mm	10,2	102	31	6,35	10	20	8
REF23.10.20.010.2.D	3/8"	9,7	102	31	6,35	10	20	8
REF23.10.20.012.1.D	12 mm	12,2	105	31	6,35	10	20	11
REF23.10.20.012.2.D	1/2"	12,8	105	31	6,35	10	20	11
REF23.10.22.016.3.D	16 mm 5/8"	16,2	107	36	6,35	12	22	13
REF23.10.30.018.1.D	18 mm	18,2	141	47	8	20	30	20
REF23.10.30.018.2.D	3/4"	19,3	141	47	8	20	30	20
REF23.10.30.022.3.D	22 mm - 7/8"	22	141	47	8	20	30	20
REF23.10.30.028.1.D	28 mm	28,2	145	51	8	20	30	20
REF23.10.30.028.2.D	1-1/8"	28,8	145	51	8	20	30	20
REF23.10.35.035.3.D	35 mm	35,2	172	57,5	9,6	20	35	26
REF23.10.35.042.1.D	42 mm	42,2	172	57,5	9,6	20	35	26
REF23.10.35.042.2.D	1-5/8"	41,5	172	57,5	9,6	20	35	26
REF23.10.50.042.1.D	42 mm	42,2	200	73	9,6	25	50	38
REF23.10.50.042.2.D	1-5/8"	41,5	200	73	9,6	25	50	38
REF23.10.50.054.3.D	54 mm 2-1/8"	54,3	200	73	9,6	25	50	38
REF23.10.65.054.3.D	54 mm 2-1/8"	54,3	238	79,5	9,6	30	65	50

Valvole ad Angolo Angle Valves



Moisture/Liquid Indicators



I Gli indicatori Refrigerera, realizzati con una spia in vetro fusa direttamente nella ghiera metallica, sono costituiti da un elemento sensibile a forma di anello il cui colore indica il valore di umidità sulla linea pari a:

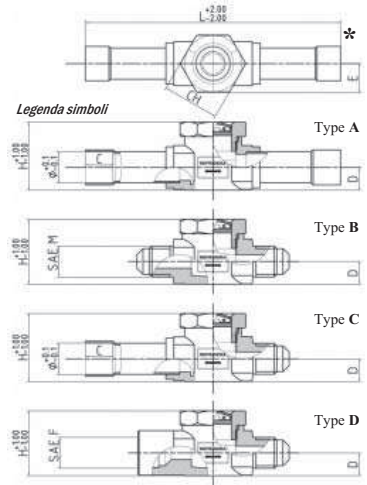
UK Refrigerera Indicators, manufactured with the glass lens fused into the metallic ring, consist of a sensitive element as a ring, which changes color according to the percentage of moisture in the system. In detail:

D Die Schauglaeser Refrigerera. Das Schauglas ist direkt in dem metallischen Ring eingepresst. Mit einem empfindlichen Feuchtigkeitsindikator wird der Feuchtigkeitsgehalt im Kaeltekreislauf farblich angezeigt.

F Les voyants Refrigerera sont réalisés avec un témoin de verre fondu directement dans le collier métallique. Ils sont constitués d'un élément sensible en forme d'anneau dont la couleur permet une vérification rapide de la présence d'humidité sur la ligne, voir le tableau:

T Refrigerera göstergeleri, metal halkanın içine kaynatılmış cam mercek ile üretilmiş olup, sistemdeki nemin miktarına göre renk değiştiren hassas bir halka içerir.

Moisture contained in the fluid (p.p.m.)						
Colour	Refrigerant fluid					
	R22	R134a	R404a	R407c	R410a	R507
Green	<60	<75	<30	<30	<30	<30
Yellow	>60	>75	>30	>30	>30	>30



Indicatori di Liquido/Umidità Moisture/Liquid Indicators

Dimensions

Code	IMAGE REF.	Dimensions	Dimesions	C	D	E	Length	Height	Spanner meas.	Kv factor
REF	*	ODS DN	SAE DN	(mm)	(mm)	(mm)	L (mm)	H (mm)	CH (mm)	m ³ /h DDP=1bar
REF60.00.01.006	TYPE A	6 mm	-	7	10	15	125	30	30	0.8
REF60.00.01.014	TYPE A	1/4"	-	7	10	15	125	30	30	0.8
REF60.00.01.010	TYPE A	10 mm	-	9	10	15	125	30	30	3.5
REF60.00.01.038	TYPE A	3/8"	-	9	10	15	125	30	30	3.5
REF60.00.01.012	TYPE A	12 mm	-	12	10	15	125	30	30	5
REF60.00.01.127	TYPE A	1/2"	-	12	10	15	125	30	30	5
REF60.00.01.016	TYPE A	16 mm 5/8"	-	14	12	15	125	35	30	13
REF60.00.01.018	TYPE A	18 mm	-	14	12	15	140	35	30	24
REF60.00.01.034	TYPE A	3/4"	-	14	12	15	140	35	30	24
REF60.00.01.022	TYPE A	22 mm 7/8"	-	17	18	18	160	45	30	40
REF60.00.01.028	TYPE A	28 mm	-	20	18	18	160	45	30	50
REF60.00.01.118	TYPE A	1-1/8"	-	20	18	18	160	45	30	50
REF60.00.02.014	TYPE B	-	1/4"	-	10	15	77	30	30	0.8
REF60.00.02.038	TYPE B	-	3/8"	-	10	15	77	35	30	0.8
REF60.00.02.127	TYPE B	-	1/2"	-	10	15	85	35	30	3.5
REF60.00.02.058	TYPE B	-	5/8"	-	12	15	85	45	30	3.5
REF60.00.03.014	TYPE C	1/4"	1/4"	-	10	15	101	30	30	0.8
REF60.00.03.038	TYPE C	3/8"	3/8"	-	10	15	101	35	30	0.8
REF60.00.03.127	TYPE C	1/2"	1/2"	-	10	15	112	35	30	3.5
REF60.00.03.058	TYPE C	5/8"	5/8"	-	12	15	112	45	30	3.5
REF60.00.04.014	TYPE D	-	1/4" (M/F)	-	10	15	77	30	30	0.8
REF60.00.04.038	TYPE D	-	3/8" (M/F)	-	12	15	77	35	30	0.8

Filter Driers

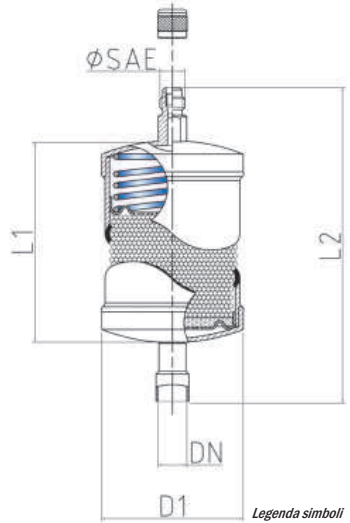


I I filtri in acciaio REFRIGERA possiedono la peculiarità della costruzione a sfere dei setacci molecolari, ciò mette a contatto il fluido refrigerante con la massima superficie filtrante possibile per garantire un assorbimento omogeneo delle salamoie acide e una maggior durata rispetto ai filtri a cartuccia solida. Rispetto al gel di silice e all'allumina attiva, inoltre, i setacci molecolari posseggono una maggiore capacità di assorbimento dell'acqua pur garantendo minori perdite di carico. Viene garantito il filtraggio completo di particelle sino a 10 micron.

C Completely made of steel, REFRIGERA driers have the peculiar value to be provided with a spherical shaped molecular sieve, so mixture and acids are absorbed as much as its volume homogeneously. However, in cartridge shape filters, particles are held on the surface and so it becomes useless in short period. We guarantee higher acid and water absorption than silica-gel and activated alumina and absorption of dirt particles more than size of 10 microns by the filtration grade, keeping however a minimum flow resistance.

D Die Filterrocknergehäuse bestehen aus Stahl. Das Molekularsieb ermöglicht eine effektive Schmutzfilterung von Partikeln bis 10 µm. Der Filterwerkstoff eignet sich besonders zur Aufnahme von Feuchtigkeit und Säure, bedingt durch die optimierte Oberfläche. Weitere Vorteile sind gute Wasserabsorption und kleine Druckverluste.

T Tamamen çelikten yapılmış olan REFRIGERA drayerlerin içindeki küresel "molecular sieve" ler drayer hacmi kadar nem ve asiti homojen olarak emer. Kartuş şeklindeki filtrelerde ise partiküller yüzeyde birikir ve kısa zamanda işlevini kaybeder. Biz silica-gel'e oranla daha yüksek asit ve su emişini, ve 10 mikrondan büyük kir partiküllerinin emişini ve aynı zamanda minimum akım direncini garanti ediyoruz.



Dimensions

Code	ODS Connection	SAE Con.	Overall Length	Refrigeration Capacity (kW)							Weight of dehydratable Refrigerant in kg			Body Length	Diam.	Volume (cm ³)
				DP 0.06 Bar							+25°C					
REF	DN	Ø SAE	L2 (mm)	R134A	R404A R507	R22 R407C	R134A	R22	R404A	R407C	R507	L1 (mm)	D1 (mm)			
REF70.052.01.006	6 mm	-	102	6	4	7,5	5,4	5,3	5,8	3,5	5,2	62	48	83		
REF70.052.01.014	1/4"	-	102	6	4	7,5	5,4	5,3	5,8	3,5	5,2	62	48	83		
REF70.053.01.010	10 mm	-	112	15	10	16	5,4	5,3	5,8	3,5	5,2	62	48	83		
REF70.053.01.038	3/8"	-	112	15	10	16	5,4	5,3	5,8	3,5	5,2	62	48	83		
REF70.083.01.010	10 mm	-	136	21	15	23	12,2	12,1	13,2	8	11,7	86	63	210		
REF70.083.01.038	3/8"	-	136	21	15	23	12,2	12,1	13,2	8	11,7	86	63	210		
REF70.084.01.012	12 mm	-	143	29	22	32	14,6	14,5	15,9	9,6	14,1	93	63	230		
REF70.084.01.127	1/2"	-	143	29	22	32	14,6	14,5	15,9	9,6	14,1	93	63	230		
REF70.164.01.012	12 mm	-	156	34	25	37	21,2	20,9	23	13,8	20,3	106	63	265		
REF70.164.01.127	1/2"	-	156	34	25	37	21,2	20,9	23	13,8	20,3	106	63	265		
REF70.165.01.016	16 mm	-	164	47	33	52	34,1	33,7	37,1	22,2	32,6	106	79	430		
REF70.304.01.012	12 mm	-	232	37	27	41	60	59,2	65,1	39	57,3	182	79	750		
REF70.304.01.127	1/2"	-	232	37	27	41	60	59,2	65,1	39	57,3	182	79	750		
REF70.305.01.016	16 mm	-	240	53	39	59	60	59,2	65,1	39	57,3	182	79	750		
REF70.052.02.014	-	1/4"	110	6	4	7,5	5,4	5,3	5,8	3,5	5,2	62	48	83		
REF70.082.02.014	-	1/4"	140	8,5	6	10	9,4	9,3	10,2	6,1	8,9	92	48	125		
REF70.163.02.038	-	3/8"	161	25	18	27	21,2	20,9	23	13,8	20,3	106	63	265		
REF70.164.02.127	-	1/2"	167	34	25	37	21,2	20,9	23	13,8	20,3	106	63	265		
REF70.165.02.016	-	5/8"	175	47	33	52	34,1	33,7	37,1	22,2	32,6	106	79	430		
REF70.305.02.016	-	5/8"	251	53	39	59	60	59,2	65,1	39	57,3	182	79	750		

Filtri Disidratatori Filter Driers



Bi-flow Filter Driers



Filtri Disidratatori bi-flow Bi-flow Filter Driers



I Completamente in acciaio, i filtri REFRIGERA possiedono un setaccio molecolare con grado di filtrazione adatto a particelle di dimensioni oltre i 10 micron, mantenendo tuttavia una minima resistenza al flusso. I filtri SOLID CORE sono BI-FLOW per l'utilizzo nei sistemi split. Il setaccio molecolare a cartucce è additivato di allumina attivata al 20% per garantire un più elevato assorbimento degli acidi.

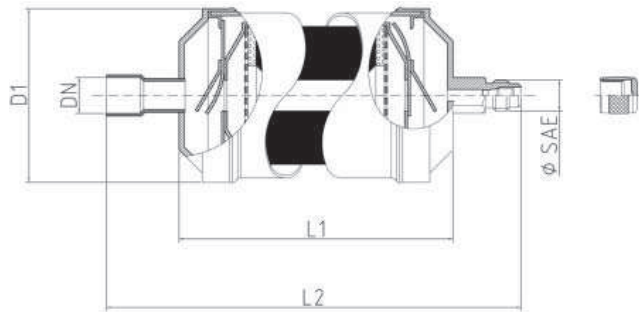
E Completely made of steel, REFRIGERA driers have been provided with a molecular sieve functional for dirt particles more than size of 10 microns by the filtration grade, keeping however a minimum flow resistance. The SOLID CORE filters are BI-FLOW for reverse flow application: internal check valves provide precise bi-directional control. Molecular sieve cartridges are 20% added of activated alumina to guarantee high acid absorption.

D Die Filtertrocknergehäuse bestehen aus Stahl. Das Molekularsieb ermöglicht eine effektive Schmutzfilterung von Partikeln bis 10 µm. Der Filterwerkstoff eignet sich besonders gut zur Aufnahme von Feuchtigkeit und Säure,

bedingt durch die optimierte Oberfläche. Weitere Vorteile sind gute Wasserabsorption und kleine Druckverluste. Die SOLID CORE sind bi-flow Filtertrockner, die in Klimaanlage (umschaltbar Kühlen / Heizen) verwendet werden. Das Molekularsieb enthält 20% aktive Kieselsäure zur besseren Säureaufnahme.

E Entièrement en acier, REFRIGERA séchoirs ont été fournis avec un tamis moléculaire fonctionnelle pour dirt particules de taille supérieure à 10 microns par le grade de filtration, en gardant toutefois un minimum de résistance à l'écoulement. Les SOLIDE CORE des filtres sont BI-DIRECTIONNEL pour l'inversion du flux. Tamis moléculaire cartouches sont ajoutés du 20% d'alumine activée afin de garantir l'absorption des acides.

T Tamamen çelikten yapılmış olan REFRIGERA dryerleri, "molecular sieves" sayesinde 10 mikrondan büyük kir partiküllerinin emilmesini ve aynı zamanda minimum akım direncini sağlar. TAŞ FİLTRELER ÇİFT YÖNLÜ aklşır: dahili çek valf, kusursuz çift yönlü aklş sağlar. Molecular sieve'lere %20 aktif alüminyum eklenerek yüksek asit emişi sağlanır.



Legenda simboli

Dimensions

Code	ODS Connection	SAE Con.	Overall Length	Liquid Refrigerant Capacity +38°C	Drying Capacity in H ₂ O Drops	Body Length	Diam.	Volume
REF	DN	∅ SAE	L2 (mm)		24°C 52°C	L1 (mm)	D1 (mm)	(cm ³)
REF71.083.01.038	3/8"	-	140	238	136,5 75	86	63	210
REF71.084.01.127	1/2"	-	144	278	136,5 130	93	63	230
REF71.164.01.127	1/2"	-	152	278	159 130	106	63	265
REF71.165.01.016	5/8"	-	158	278	159 130	106	63	430

Filter Driers Solid Cartridge



Filtri Disidratatori a Cartucce Intercambiabili Filter Driers Replaceable Solid Cartridge



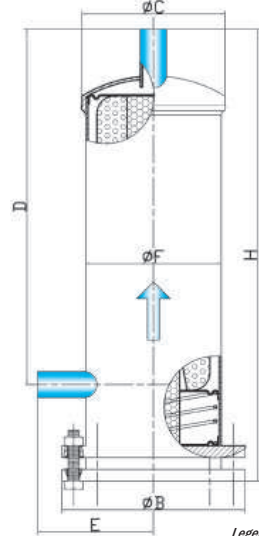
I Completamente in acciaio, i filtri REFRIGERA possiedono un setaccio molecolare con grado di filtrazione adatto a particelle di dimensioni oltre i 10 micron, mantenendo tuttavia una minima resistenza al flusso. Il setaccio molecolare a cartucce è additivato di allumina attivata al 20% per garantire un più elevato assorbimento degli acidi.

UK Completely made of steel, REFRIGERA driers have been provided with a molecular sieve functional for dirt particles more than size of 10 microns by the filtration grade, keeping however a minimum flow resistance. Molecular sieve cartridges are 20% added of activated alumina to guarantee high acid absorption.

D Die Filterrocknergehäuse bestehen aus Stahl. Das Molekularsieb ermöglicht eine effektive Schmutzfilterung von Partikeln bis 10 µm. Der Filterwerkstoff eignet sich besonders gut zur Aufnahme von Feuchtigkeit und Säure, bedingt durch die optimierte Oberfläche. Weitere Vorteile sind gute Wasserabsorption und kleine Druckverluste. Das Molekularsieb enthält 20% aktive Kieselsäure zur besseren Säureaufnahme.

F Entièrement en acier, REFRIGERA séchoirs ont été fournis avec un tamis moléculaire fonctionnelle pour dirt particules de taille supérieure à 10 microns par le grade de filtration, en gardant toutefois un minimum de résistance à l'écoulement. Tamis moléculaire cartouches sont ajoutés du 20% d'alumine activée afin de garantir l'absorption des acides.

T Tamamen çelikten yapılmış olan REFRIGERA drayerleri, "molecular sieves" sayesinde 10 mikrondan büyük kir partiküllerinin emilmesini ve aynı zamanda minimum akım direncini sağlar. Molecular sieve'lere %20 aktif alüminyum eklenerek yüksek asit emişi sağlanır. minimum akım direncini garanti ediyoruz.



Legenda simboli

Dimensions

Code	ODS Conn.	Overall Length	Refrigeration Capacity kW					Connection position	Connection length	Filter Diam.	Flange Diam.	EX Diam.	#
REF	DN	H (mm)	R134A	R12	R22	R404A	R502	D (mm)	E (mm)	ØF (mm)	ØB (mm)	ØC (mm)	n
REF72.048.01.058	5/8"	237	28,2	28,2	35,2	28,2	28,2	155	80	114	154	120	1
REF72.048.01.078	7/8"	241	35,2	35,2	45,8	35,2	35,2	159	82	114	154	120	1
REF72.048.01.118	1-1/8"	238	35,2	35,2	45,8	35,2	35,2	160	82	114	154	120	1
REF72.048.01.138	1-3/8"	248	45,8	45,8	70,4	45,8	45,8	163	86	114	154	120	1
REF72.048.01.158	1-5/8"	248	45,8	45,8	70,4	45,8	45,8	163	86	114	154	120	1
REF72.048.01.218	2-1/8"	248	45,8	45,8	70,4	45,8	45,8	163	86	114	154	120	1
REF72.048.01.258	2-5/8"	248	45,8	45,8	70,4	45,8	45,8	163	86	114	154	120	1
REF72.096.01.078	7/8"	385	70,4	70,4	88,0	52,8	52,8	302	83	114	154	120	2
REF72.096.01.118	1-1/8"	385	88,0	88,0	105,6	70,4	70,4	304	83	114	154	120	2
REF72.096.01.138	1-3/8"	389	105,6	105,6	123,2	88,0	88,0	306	86	114	154	120	2
REF72.096.01.158	1-5/8"	389	123,2	123,2	140,8	105,6	105,6	306	86	114	154	120	2
REF72.096.01.218	2-1/8"	389	123,2	123,2	140,8	105,6	105,6	438	86	114	154	120	2
REF72.096.01.258	2-5/8"	389	123,2	123,2	140,8	105,6	105,6	438	83	114	154	120	2
REF72.144.01.118	1-1/8"	520	105,6	105,6	140,8	105,6	105,6	438	83	114	154	120	3
REF72.144.01.138	1-3/8"	527	140,8	140,8	176,0	123,2	123,2	445	83	114	154	120	3
REF72.144.01.158	1-5/8"	527	158,4	158,4	193,6	140,8	140,8	445	86	114	154	120	3
REF72.144.01.218	2-1/8"	532	176,0	176,0	211,2	158,4	158,4	448	89	114	154	120	3

Solid Cartridges for Filter Driers

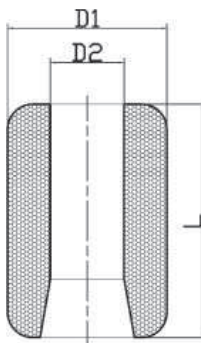
I *Setaccio molecolare con grado di filtrazione adatto a particelle di dimensioni oltre i 10 micron, mantenendo tuttavia una minima resistenza al flusso. Il setaccio molecolare a cartucce è additivato di allumina attivata al 20% per garantire un più elevato assorbimento degli acidi.*

U *Molecular sieve functional for dirt particles more than size of 10 microns by the filtration grade, keeping however a minimum flow resistance. Molecular sieve cartridges are 20% added of activated alumina to guarantee high acid absorption.*

D *Das Molekularsieb ermöglicht eine effektive Schmutzfilterung von Partikeln bis 10 µm. Weitere Vorteile sind gute Wasserabsorption und kleine Druckverluste. Das Molekularsieb enthält 20% aktive Kieselsäure zur besseren Säureaufnahme.*

F *Tamis moléculaire fonctionnelle pour dirt particules de taille supérieure à 10 microns par le grade de filtration, en gardant toutefois un minimum de résistance à l'écoulement. Tamis moléculaire cartouches sont ajoutés du 20% d'alumine activée afin de garantir l'absorption des acides.*

C *Molecular sieves sayesinde 10 mikrondan büyük kir partiküllerinin emilmesini ve aynı zamanda minimum akım direncini sağlar. Molecular sieve'lere %20 aktif alüminyum eklenerek yüksek asit emişi sağlanır. minimum akım direncini garanti ediyoruz.*



Legenda simboli

Cartucce Intercambiabili PER FILTRI DISIDRATATORI
Solid Cartridges FOR FILTER DRIERS

Dimensions

Code	De	Di	Overall Length	Description	Use
REF	D1 (mm)	D2 (mm)	L (mm)		
REF72.048.08.001	94	44	140	100% Molecular Sieve	MOISTURE REMOVAL
REF72.048.08.002	94	44	140	80% M.S. + 20% Act.Alumina	ACID AND MOISTURE REMOVAL
REF72.048.08.003	94	44	140	46% M.S. + 47%Act.Alumina + 5% Carbon	HIGH CAPACITY FOR ACID REMOVAL CLEAN UP FOR MOTOR BURNS
REF72.096.08.001	122	53	165	100% Molecular Sieve	HIGH CAPACITY MOISTURE REMOVAL
REF72.096.08.002	122	53	165	80% M.S. + 20% Act.Alumina	HIGH CAPACITY ACID AND MOISTURE REMOVAL
REF72.048.08.004	94	44	140	Mechanical Filter	SUCTION FILTER

FOR USE WITH CFC-HCFC MINERAL OIL AND POE



Carbon Dioxide Molecule

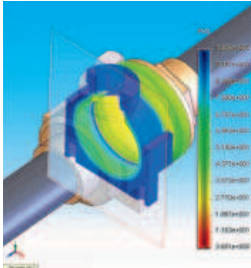
“To prevent environmental threats many researchers and manufacturers reconsider natural refrigerants”

R744-CO₂

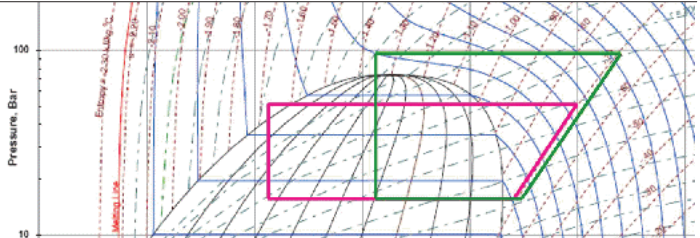
The use of CO₂ as a refrigerant dates back more than a century, but it fell out of favor in the air-conditioning and refrigeration industry with the development of chlorofluorocarbons (CFCs) in the 1930s. However, in the 1980s, scientists identified harming the ozone layer and global warming as major environmental threats, and leading many researchers and manufacturers to reconsider “natural” refrigerants such as CO₂, because these substances have negligible direct global-warming impact and ozone-depletion potential. Advantages of CO₂ as a refrigerant:

- A stable substance**
- Minimal environmental impact**
 - Ozone depletion potential = 0
 - Global warming potential = 1
- Non flammable and non toxic**
- Compatible with system materials and lubricants**
- High cooling capacity**
 - e.g. up to 6 times the capacity of R404A
 - Smaller compressor displacement and smaller pipe sizes
- High heat transfer**
 - Smaller evaporators and condensers are possible
- Low viscosity**
 - Less pipe work pressure drop
- Less sensitive to pipe work pressure drops**

New concepts of high-side pressure control in what came to be called a “transcritical” cycle were devised in early patent applications by Gustav Lorentzen, professor at Norwegian University of Science and Technology and his co-workers from 2003 and later in commercial refrigeration systems. The pressure level in these system will be quite high (around 30-130 bar). Nevertheless smaller volumes, the stored explosion energy in CO₂ piping and components is not much different from a conventional plant.



Testing Results of a CO₂ component



Sub critical at low ambiants or in a cascade system
Trans critical at high ambiants or with fixed (high) head pressure - capacity and COP significantly less

Components CO₂ Suitable

■ for **CO₂ normal cycles**, IRD has been designed components able to fit the properties of CO₂ and so used seats and gaskets made of appropriate materials.

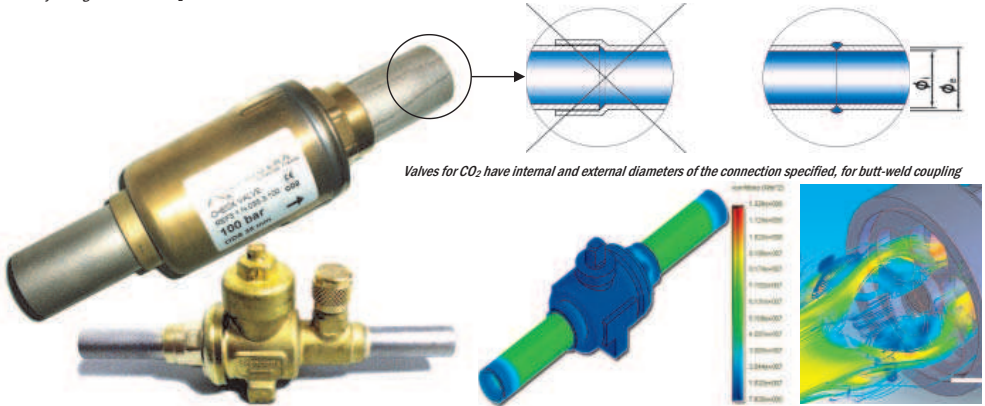
■ Then, for the range of IRD products suitable for **CO₂ transcritical cycles**, due to operational pressures certified of up to 100 bars, IRD has been put into action a further effort:

CO₂ -120 bar systems require highly resistant components that have been developed from the company to serial production in a wide range: from ball valves to check valves and from 6mm to 35mm diameters. These valves, that operate under a higher pressure than those of conventional fluorocarbon-based vapor compression systems, have been engaged the technical staff to become more rigorous in monitoring

leaks and increase the burst tests. IRD preferred mounting stainless steel tubes instead of copper connections due to high yield strength and low plastic deformation of the material. On the other side, this kind of tubes have the little inconvenience to force the field personnel to execute butt-welding-joints. IRD is working to assemble alternatively tubes in new high resistance copper alloys.



Safety Changeover Device CO₂ suitable



Valves for CO₂ have internal and external diameters of the connection specified, for butt-weld coupling

R744-CO₂ Ball Valves SMALL SIZE



I Il nostro sistema bi-direzionale permette di montare la valvola senza tenere in considerazione la direzione del flusso. Il piccolo foro sulla sfera permette alla valvola di sopportare la pressione del gas senza sollecitare il restante materiale.

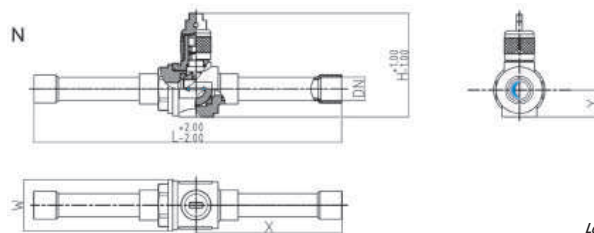
U Our bi-flow system allows the mounting of the valve without taking into consideration the direction of the flow. The small equalization hole on the sphere will allow the valve to support the gas pressure without stressing the other material.

U Unser bi-flow System erlaubt die Ventile zu montieren ohne auf die Richtung (Direktion) des

Durchganges zu beachten. Das kleine Loch erlaubt einen Druck vom Gas auszuhalten ohne anderes Material zu belasten.

N Notre système bi - directionnel permet d'installer la vanne sans considérer la direction du flux. Le petit trou permet à la vanne de supporter la pression du gaz utilisé sans fatiguer le matériel restant.

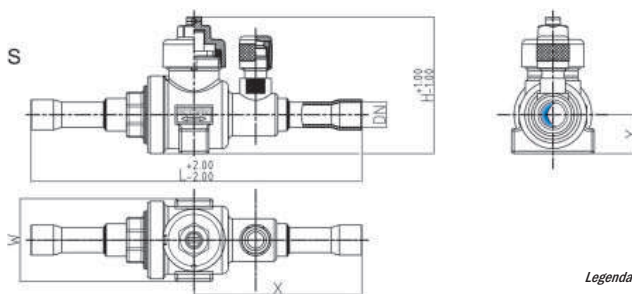
Çift yönlü sistemimiz sayesinde vanayı akış yönü farketmeksizin monte edebilirsiniz. Küre üzerindeki küçük dengeleme deliği sayesinde vana diğer malzemeleri zorlamadan gaz basıncına dayanabilir.



Legenda simboli

Dimensions

Code	Dimensions	Weight	Sphere passage	Length	Height	Wide	CentreX	CentreY	Kv
REF	DN	(g)	(mm)	L (mm)	H (mm)	W (mm)	X (mm)	Y (mm)	DDP=1bar (m ³ /h)
REF0.1.N.A.006.1.52	6 mm	90	8	126	45	22	60	12	1,0
REF0.1.N.A.006.2.52	1/4"	90	8	126	45	22	60	12	1,0
REF0.1.N.A.010.1.52	10 mm	108	8	132	45	22	63	12	2,4
REF0.1.N.A.010.2.52	3/8"	108	8	132	45	22	63	12	2,4
REF0.1.N.A.012.1.52	12 mm	120	8	139	45	22	67	12	2,7
REF0.1.N.A.012.2.52	1/2"	120	8	139	45	22	67	12	2,7



Legenda simboli

Dimensions

Code	Dimensions	Weight	Sphere passage	Length	Height	Wide	CentreX	CentreY	Kv
REF	DN	(g)	(mm)	L (mm)	H (mm)	W (mm)	X (mm)	Y (mm)	DDP=1bar (m ³ /h)
REF0.1.S.A.006.1.52	6 mm	290	10	126	32	42	65	15	0,8
REF0.1.S.A.006.2.52	1/4"	292	10	126	32	42	65	15	0,8
REF0.1.S.A.010.1.52	10 mm	280	10	132	32	42	67	15	2,3
REF0.1.S.A.010.2.52	3/8"	282	10	132	32	42	67	15	2,3
REF0.1.S.A.012.1.52	12 mm	284	10	139	32	42	72	15	4,5
REF0.1.S.A.012.2.52	1/2"	286	10	139	32	42	72	15	4,5

Valvole a Sfera per R744-CO₂ MISURA PICCOLA

Ball Valves for R744-CO₂ SMALL SIZE



R744-CO₂ Ball Valves MEDIUM SIZE



Valvole a Sfera per R744-CO₂ MISURA MEDIA

Ball Valves for R744-CO₂ MEDIUM SIZE

I Il nostro sistema bi-direzionale permette di montare la valvola senza tenere in considerazione la direzione del flusso. Sono disponibili anche con la valvolina di precarica (fornita già stampata fino a 3/4").

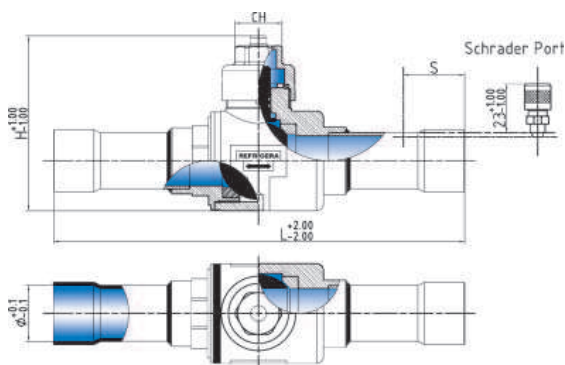
UK Our bi-flow system allows the mounting of the valve without taking into consideration the direction of the flow. Valves with access port are available (up to 3/4" schrader is pre-forged).

D Unser bi-flow System erlaubt die Ventile zu montieren ohne auf die Richtung (Direktion) des Durchganges zu

beachten. Zur Verfüegung auch mit Schraderventil (Bis 3/4" sind die Schrader Ventilen Vorgepresst).

F Notre système bi-directionnel permet d'installer la vanne sans considérer la direction du flux; également à disposition la vanne avec la Schrader sur commande du client (Jusqu'à 3/4" schrader port est faux).

C Çift yönlü sistemimiz sayesinde vanayı akış yönü farketmeksizin monte edebilirsiniz. Subap girişli vanalar mevcuttur (3/4" e kadar subaplar vana üzerinde sabittir).



Legenda simboli

Dimensions

Code	Dimensions	Weight	Sphere passage	Length	Height	Connections diameter	Spanner meas.	Kv factor	S
REF	DN	(g)	(mm)	L (mm)	H (mm)	∅ (mm)	CH (mm)	DDP=1bar (m ³ /h)	(mm)
REF0.1.N.B.015.1.52	15 mm	360(N) 390(S)	15	148	65	15,2	16	12,5	28
REF0.1.N.B.016.3.52	16 mm / 5/8"	360(N) 390(S)	15	148	65	16,2	16	13	28
REF0.1.N.B.018.1.52	18 mm	360(N) 390(S)	15	148	65	18,2	15	14	28
REF0.1.N.B.018.2.52	3/4"	360(N) 390(S)	15	148	65	19,3	15	14	28
REF0.1.N.C.022.3.52	22 mm / 7/8"	750	19	185	87	22,3	20	24	32
REF0.1.N.D.028.1.52	28 mm	1076	25	205	89	28,2	20	40	35
REF0.1.N.D.028.2.52	1-1/8"	1076	25	205	89	28,8	20	40	35
REF0.1.N.E.035.3.52	35 mm / 1-3/8"	1322	32	205	100	35,2	20	67,3	40
REF0.1.N.F.042.1.52	42 mm	2400	40	240	115	42,2	22	98	48
REF0.1.N.F.042.2.52	1-5/8"	2400	40	240	115	41,5	22	98	48
REF0.1.N.G.054.3.52	54 mm / 2-1/8"	3386	50	270	130	54,3	22	190	50
REF0.1.N.G.064.1.52	64 mm	3470	50	286	130	64,3	22	200	50
REF0.1.N.G.067.2.52	2-5/8"	4026	50	286	130	67	22	210	60

N: normal assemblage without access port

S: Schrader access port + mechanism mounted on copper tubes

R744-CO₂ Rotary-Actuated 2Way Ball Valves

I Motorizzazione della valvola a sfera per la versione a 2 vie, particolarmente utilizzabile nei cicli di sbrinamento nelle vetrine frigorifere.

UK Motorized Valve with actuator for 2-ways valve, especially useful in refrigerators defrosting processes.

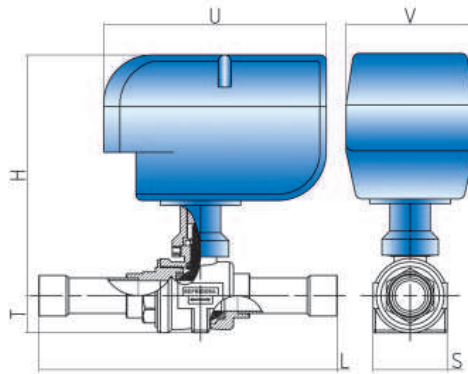
D Kugelventilen koennen jetzt auch mit elektrischen Actuator geliefert werden. Besonders wichtig fuer Abtauprozess der Teken.

FR Vanne a boule motorisée soit en version à 2-voies, particulièrement utilisable dans les cycles de dégivrages des vitrines frigorifiques.

C 2 ve 3 yollu actuatoerlu motorize vanalar özellekle buzdolabi defrost sistemlerinde çok kullanışlıdır.



Valvole a 2Vie per R744-CO₂ Motorizzabili R744-CO₂ Rotary-Actuated 2Way Ball Valves



Legenda simboli

Dimensions

Code	ODS	Weight	H	L	S	U	V
REF	DN	(g)	(mm)	(mm)	(mm)	(mm)	(mm)
REF1.I.S.A.006.1K52	6 mm	1938	181 mm	132	33	141	82
REF1.I.S.A.006.2K52	1/4"	1940	181 mm	132	33	141	82
REF1.I.S.A.010.1K52	10 mm	1930	181 mm	132	33	141	82
REF1.I.S.A.010.2K52	3/8"	1932	181 mm	132	33	141	82
REF1.I.S.A.012.1K52	12 mm	1935	181 mm	132	33	141	82
REF1.I.S.A.012.2K52	1/2"	1938	181 mm	132	33	141	82
REF1.I.N.B.015.1K52	15mm	2020	137	148	34	141	82
REF1.I.N.B.016.3K52	16 mm - 5/8"	2030	137	148	34	141	82
REF1.I.N.B.018.1K52	18mm	2040	137	148	34	141	82
REF1.I.N.B.018.2K52	3/4"	2040	137	148	34	141	82
REF1.I.N.C.022.3K52	22 mm - 7/8"	2500	150	185	46	141	82
REF1.I.N.D.028.1K52	28 mm	2730	1/2"	210	50	141	82
REF1.I.N.D.028.2K52	1-1/8"	2730	1/2"	210	50	141	82
REF1.I.N.E.035.3K52	35 mm - 1-3/8"	2970	160 mm	210	61	141	82
REF1.I.N.F.042.1K52	42 mm	4050	167 mm	245	76	141	82
REF1.I.N.F.042.2K52	1-5/8"	4050	167 mm	245	76	141	82
REF1.I.N.G.054.3K52	54 mm - 2-1/8"	5035	203 mm	275	80	195	105
REF1.I.N.G.064.1K52	64 mm	5120	203 mm	286	80	195	105
REF1.I.N.G.067.2K52	2-5/8"	5674	203 mm	286	80	195	105

R744-CO₂ Rotary-Actuated 3Way Ball Valves

IT Motorizzazione della valvola a sfera per la versione a tre vie, particolarmente utilizzabile nei cicli di sbrinamento nelle vetrine frigorifere.

UK Motorized Valve with actuator for 3-ways valve, especially useful in refrigerators defrosting processes.

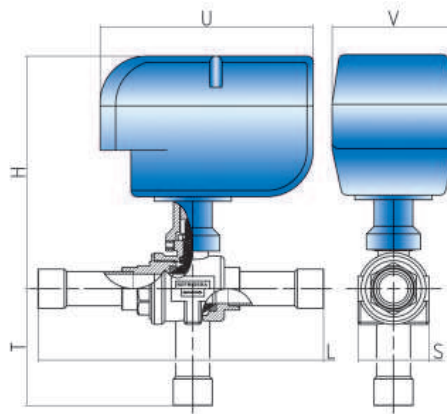
DE Kugelventilen koennen jetzt auch mit elektrischen Actuator geliefert werden. Besonders wichtig fuer Abtauprozess der Teken.

FR Vanne a boule motorisée soit en version à 3-voies, particulièrement utilisable dans les cycles de dégivrages des vitrines frigorifiques.

TR 2 ve 3 yollu actuatörlü motorize vanalar özellikle buzdolabi defrost sistemlerinde çok kullanışlıdır.



Valvole a 3Vie per R744-CO₂ Motorizzabili R744-CO₂ Rotary-Actuated 3Way Ball Valves



Legenda simboli

Dimensions

Code	ODS	H	L	S	T	U	V
REF	DN	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
REF1.1.S.A.006.1MK52	6 mm	181 mm	132	33	46	141	82
REF1.1.S.A.006.2MK52	1/4"	181 mm	132	33	46	141	82
REF1.1.S.A.010.1MK52	10 mm	181 mm	132	33	48,5	141	82
REF1.1.S.A.010.2MK52	3/8"	181 mm	132	33	48,5	141	82
REF1.1.S.A.012.1MK52	12 mm	181 mm	132	33	53	141	82
REF1.1.S.A.012.2MK52	1/2"	181 mm	132	33	53	141	82
REF1.1.N.B.015.1MK52	15 mm	137	148	34	61	141	82
REF1.1.N.B.016.3MK52	16 mm - 5/8"	137	148	34	61	141	82
REF1.1.N.B.018.1MK52	18 mm	137	148	34	61	141	82
REF1.1.N.B.018.2MK52	3/4"	137	148	34	61	141	82
REF1.1.N.C.022.3MK52	22 mm - 7/8"	150	185	46	79	141	82
REF1.1.N.D.028.1MK52	28 mm	1/2"	210	50	89	141	82
REF1.1.N.D.028.2MK52	1-1/8"	1/2"	210	50	89	141	82
REF1.1.N.E.035.3MK52	35 mm - 1-3/8"	160 mm	210	61	94	141	82
REF1.1.N.F.042.1MK52	42 mm	167 mm	245	76	113	141	82
REF1.1.N.F.042.2MK52	1-5/8"	167 mm	245	76	113	141	82
REF1.1.N.G.054.3MK52	54 mm - 2-1/8"	203 mm	275	80	119	195	105
REF1.1.N.G.064.1MK52	64 mm	203 mm	286	80	137	195	105
REF1.1.N.G.067.2MK52	2-5/8"	203 mm	286	80	137	195	105

R744-CO₂ Check Valves

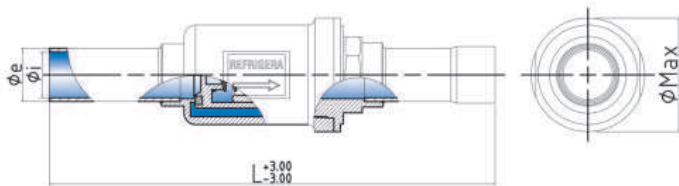
I Le nostre valvole di ritegno per CO₂ possono essere montate in qualunque posizione e offrono il migliore fattore di flusso con le minime perdite di carico.

UK Our CO₂ Check Valves can be mounted in every position and offer the best performance with reduced pressure drops.

D Unsere Rueckschlagventile für CO₂ koennen in alles Positionen montiert werden und dieten die beste Leistung mit reduzierten Druckvers

F Notre Clapets pour CO₂ peut être monté dans toutes les positions et offrir la meilleure performance avec une baisse de la pression réduite.

C Check Valflerimiz her yönde monte edilebilirler ve basınç düşümlerinde en iyi performansı sağlarlar.



Legenda simboli

Dimensions

Code	Dimensions	Weight	ODS	B	Length	Ø Max	KV DDP=1bar
REF	DN	(g)	(mm)	(mm)	(mm)	(mm)	(m ³ /h)
REF3.1.N.006.1.52	6 mm	88	6,1	7	107	24	0,68
REF3.1.N.006.2.52	1/4"	95	6,4	7	107	24	0,68
REF3.1.N.008.3.52	8 mm (5/16")	95	8,1	8	107	24	1,00
REF3.1.N.010.1.52	10 mm	96	10,2	9	112	24	1,40
REF3.1.N.010.2.52	3/8"	96	9,7	9	112	24	1,40
REF3.1.N.012.1.52	12 mm	100	12,2	12	121	24	2,95
REF3.1.N.012.2.52	1/2"	100	12,8	12	121	37	2,95
REF3.1.N.015.1.52	15 mm	280	15,2	12	155	37	4,10
REF3.1.N.016.3.52	16 mm (5/8")	280	16,2	14	155	37	4,10
REF3.1.N.018.1.52	18 mm	305	18,2	14	155	37	4,55
REF3.1.N.018.2.52	3/4"	305	19,3	14	155	37	4,55
REF3.1.N.022.3.52	22 mm (7/8")	345	22,3	17	180	37	5,10
REF3.1.N.028.1.52	28 mm	1100	28,2	20	230	60	12,75
REF3.1.N.028.2.52	1-1/8"	1100	28,8	20	230	60	12,75
REF3.1.N.035.3.52	35 mm (1-3/8")	1736	35,2	25	235	70	24,90
REF3.1.N.042.1.52	42 mm	2560	42,2	28	270	80	35,06
REF3.1.N.042.2.52	1-5/8"	2580	41,5	28	270	80	35,06
REF3.1.N.054.3.52	54 mm (2-1/8")	3570	54,3	34	300	98	60,50
REF3.1.N.064.1.W.52	64 mm	3570	64,0	34	300	98	60,50
REF3.1.N.067.2.W.52	2-5/8"	3722	66,8	36	362	98	60,50
REF3.1.N.064.1.52	64 mm	4800	64,0	36	310	118	130,00
REF3.1.N.067.2.52	2-5/8"	4800	66,8	36	310	118	130,00
REF3.1.N.076.3.52	76 mm (3")	4800	76,1	36	362	118	144,50
REF3.1.N.080.3.52	80 mm (3-1/8")	4800	80,0	36	362	118	144,50

W: Reduced Port

N: standard spring valve with minimum Opening Pressure Differential = 0,1 bar

R: reinforced spring valve with minimum Opening Pressure Differential = 0,3 bar

Valvole di Ritegno per R744-CO₂ R744-CO₂ Check Valves



R744-CO₂ NPT Valves

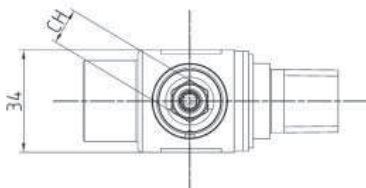
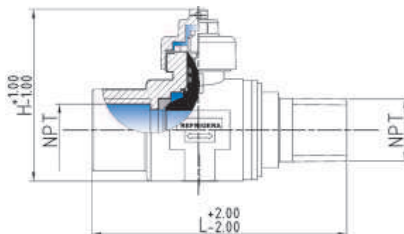
IT Le valvole NPT sono adatte per essere utilizzate assieme alle valvole di sicurezza dello stesso diametro nominale.

FR Les vannes NPT sont appropriées pour être utilisées avec les soupapes de sûreté du même diamètre nominal.

UK NPT Valves suitable to be used together with safety valve of the same Nominal Diameter.

TR NPT Vanalar, aynı nominal çaptaki emniyet vanaları ile beraber kullanıma uygundur.

DE Unsere NPT Ventile sind geeignet fuer die Verwendung zusammen mit dem Sicherheitsventil mit gleichem Durchmesser.



Legenda simboli



Valvole NPT per R744-CO₂ R744-CO₂ NPT Valves



Dimensions

Code	Dimensions	Weight	Sphere passage	Length	Height	Spanner meas.	Kv factor
REF	DN	(g)	(mm)	L (mm)	H (mm)	CH (mm)	DDP=1bar (m ³ /h)
REF1.1.P.B.012.1N52	1/2"	360	15	85	56,5	20	13
REF1.1.P.C.001.1N52	1"	898	20	120	85	20	24

*P=	Piombate con filo	sealed with lead	Plombiert mit Faden	plombées avec fil
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R744-CO₂ Safety Valves



Interamente realizzate in ottone, le valvole di sicurezza garantiscono protezione contro eventuali sovrappressioni, rispetto alle condizioni di esercizio di progetto, delle componenti di sistemi di refrigerazione o condizionamento.

United Kingdom **C**ompletely made of brass, safety valves grant protection against possible overpressures of the refrigerating systems with regards to the operating conditions for which they have been designed.

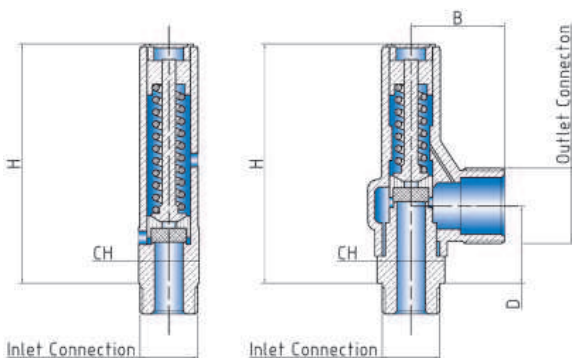
Deutschland **V**ollständig bewilligen gebildet aus Messing, bewilligen Die Sicherheitventile

Schutz gegen mögliche ueberdrueche Faelle der kühlenden Systeme in bezug auf die Betriebsbedingungen, für die sie bestimmt worden sind.

Francia **E**ntièrement réalisées en laiton, les soupapes de sécurité garantissent protection contre les surpressions éventuelles, pur rapport aux conditions de service pour lesquelles elles ont été conçues, des composants de systèmes de réfrigération.

Tamamen pirinç dköüm olan emniyet vanaları, soğutma sistemlerindeki aşırı basınç artışlarına karşı koruma sağlar.

Valvole di Sicurezza per R744-CO₂ R744-CO₂ Safety Valves



SCARICO LIBERO
FREE OUTLET

SCARICO CONVOGLIATO
PIPED OUTLET

Legenda simboli

Dimensions

Code	Flow Diam.	H	D	B	CH	Inlet Connection	Outlet Connection	Setting	PN	OverP
	(mm)	(mm)	(mm)	(mm)	(mm)	NPT	GAS	(bar)	(bar)	
FREE OUTLET										
REF90.12.00.10.800	10	100	-	-	-	1/2"	FREE	80	100	10%
REF90.34.00.10.800	10	100	-	-	-	3/4"	FREE	80	100	10%
REF90.34.00.14.800	14	127	-	-	-	3/8"	FREE	80	100	10%
REF90.01.00.14.800	14	127	-	-	-	1/2"	FREE	80	100	10%
PIPED OUTLET										
REF90.12.01.10.800	10	106	31	42	30	1/2"	1"	80	100	10%
REF90.34.01.10.800	10	106	31	42	30	3/4"	1"	80	100	10%
REF90.34.11.07.800	14	154	36	50	40	3/4"	1-1/4"	80	100	10%
REF90.01.11.07.800	14	154	36	50	40	1"	1-1/4"	80	100	10%

*: ON REQUEST ALL TYPES ARE AVAILABLE IN THE FOLLOWING SETTING PRESSURES: from 0,5 BAR up to 150 BAR

R744-CO₂ 12obar Indicators



Indicatori di Liquido/Umidità per R744-CO₂ 12obar R744-CO₂ 12obar Moisture/Liquid Indicators

I Gli indicatori Refrigerera, realizzati con una spia in vetro fusa direttamente nella ghiera metallica, sono costituiti da un elemento sensibile a forma di anello il cui colore indica il valore di umidità sulla linea pari a:

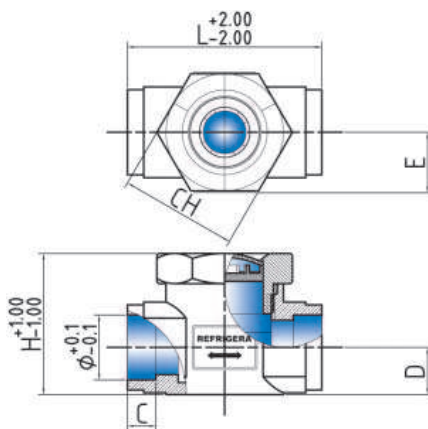
UK Refrigerera Indicators, manufactured with the glass lens fused into the metallic ring, consist of a sensitive element as a ring, which changes color according to the percentage of moisture in the system. In detail:

D Die Schauglaeser Refrigerera. Das Schauglas ist direkt in dem metallischen Ring eingepresst. Mit einem empfindlichen Feuchtigkeitsindikator wird der Feuchtigkeitsgehalt im Kaeltkreislauf farblich angezeigt.

F Les voyants Refrigerera sont réalisés avec un témoin de verre fondu directement dans le collier métallique. Ils sont constitués d'un élément sensible en forme d'anneau dont la couleur permet une vérification rapide de la présence d'humidité sur la ligne, voir le tableau:

T Refrigerera göstergeleri, metal halkamın içine kaynatılmış cam mercek ile üretilmiş olup, sistemdeki nemin miktarına göre renk değiştiren hassas bir halka içerir.

Moisture contained in the fluid (p.p.m.)	
Colour	Refrigerant fluid
	R744
Green	<50
Yellow	>50

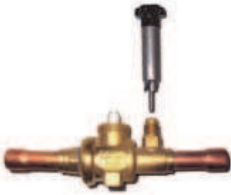


Legenda simboli

Dimensions

Code	Dimensions	C	D	E	Length	Height	Spanner meas.	Kv factor
REF	ODS DN	(mm)	(mm)	(mm)	L (mm)	H (mm)	CH (mm)	m ³ /h DDP=1bar
REF60.61.07.010	10 mm	10	10	15	55	30	32	3.5
REF60.61.07.012	12 mm	10	10	15	55	30	32	5
REF60.61.07.016	16 mm	14	12	15	60	35	32	13
REF60.61.07.018	18 mm	14	12	15	60	35	32	24
REF60.61.07.022	22 mm	20	18	18	70	45	32	40
REF60.61.07.028	28 mm	20	18	18	70	45	32	50

Optional Spare Parts



Affilatore – Grinder – Affuteur – Schleifer



I *Strumento di rifinitura della cartellatura della presa di pressione. L'operazione di rifinitura può essere eseguita manualmente o tramite trapano elettrico.*

UK *Finishing tool for flaring the pressure taps. The finishing operation can be performed manually or using an electric drill.*



D *Instrument zur Nachbearbeitung der Kelchung des Druckanschlusses. Die Nachbearbeitung kann manuell oder mit Hilfe einer elektrischen Bohrmaschine erfolgen.*

F *Instrument de rectification du dudgeonnage effectué à la prise de pression. L'opération de finissage peut être faite à la main ou à l'aide d'une perceuse électrique.*

Kit Montaggio per attuatore – Rotary Actuator Connection Kit – Kit de montage pour le moteur électrique – Montage Kit fuer Elektrischen Actuator



CODE ASSEMBLY H

ISO5211 DIN3337

VSREF-KITMONTA/B F03 CH09 30

VSREF-KITMONTA/BL F03 CH09 75

VSREF-KITMONTA/C F03 CH09 35

VSREF-KITMONTA/DE F03 CH09 35

VSREF-KITMONTA/FG F03 CH09 36

VSREF-KITMONTA/FG F07 CH14 60

VSREF-KITMONTA/HL F07 CH14 60

Guaina isolante per valvole – Valves insulating sleeve – Gaine d'isolation pour les vannes a boule – Isoliermanschette für Kugelventilen



I *Guaina isolante in elastomero espanso disponibile su richiesta in classe 1 e M1 per tutte le valvole.*

UK *Insulating material in synthetic rubber - based on elastomeric foam—available upon request in class 1 and M1, for all valves sizes.*

D *Klasse 1 und M1 Isoliermanschette zur Verfügung, auf Anfrage, für alle Ventile.*

F *Gaine élastomérique d'isolation en mousse de polyéthylène réticulé, disponible sur demande en classe 1 et M1, pour tous les vannes Refrigerera.*

Accessori Opzionali Optional Spare Parts



R744-CO₂ 12obar Ball Valves

Italy Fornite di tronchetti in acciaio inox da saldare testa a testa, le valvole vengono garantite per una PN sino a 120 bar.

UK Forged valves provided by inox butt-fusion joining tubes. Valves are guaranteed up to 120 bar nominal pressure.

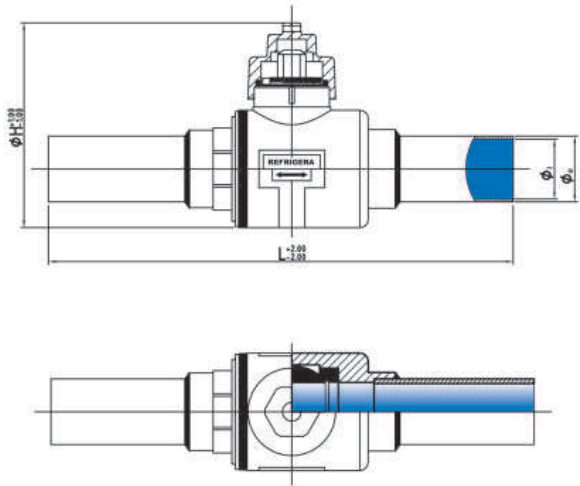
Germany Geschmiedete Ventile, die von inox butt-Fusion Beitritt Röhren. Ventile sind garantiert bis zu 120 bar Nenndruck.

France Fourni par connexions à souder en inox pour fusion bout à bout des tubes de rejoindre, les vannes a boule sont garantis jusqu'à la pression nominale du 120 bar.

Turkey Döküm vanalar boruların "inox butt-fusion" yöntemi ile birleştirilmesiyle oluşmuştur. Vanalar 120 bar nominal basınca kadar garanti altındadır.



Valvole a Sfera per R744-CO₂ 12obar R744-CO₂ 12obar Ball Valves



Legenda simboli

Dimensions

Code	Dimensions	Weight	Sphere passage	Length	Height	Steel Tubes for ButtWeld		Spanner Cap	Kv factor
REF	DN	(g)	(mm)	L (mm)	H (mm)	Ø e (mm)	Ø i (mm)	CH (mm)	m ³ /h (DDP:1bar)
REF0.I.S.A.010.1.120	10 mm	120	10	140	45	10	8	12	2,7
REF0.I.S.A.012.1.120	12 mm	120	10	140	45	12	10	12	2,7
REF0.I.N.B.016.3.120	16 mm (5/8")	360	15	148	65	16	14	16	13
REF0.I.N.B.018.1.120	18 mm	360	15	148	65	18	16	15	14
REF0.I.N.C.022.3.120	22 mm (7/8")	750	19	185	87	22	18	20	24
REF0.I.N.D.028.1.120	28 mm	1076	25	205	89	28	24	20	40
REF0.I.N.E.035.3.100	35 mm (1-3/8")	1322	32	205	100	35	31	20	67,3

R744-CO₂ 120bar Check Valves

🇮🇹 Le nostre valvole di ritegno per CO₂ alle pressioni possono essere montate in qualunque posizione e offrono il migliore fattore di flusso con le minime perdite di carico.

🇬🇧 Our high pressure Check Valves can be mounted in every position and offer the best performance with reduced pressure drops.

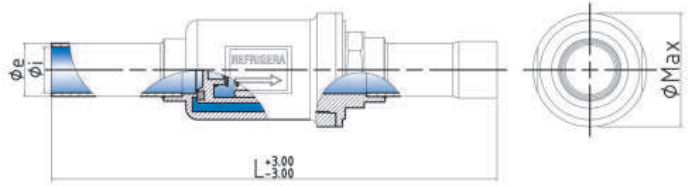
🇩🇪 Unsere Rueckschlagventile fuer CO₂ koennen in alles Positionen montiert werden und dieten die beste Leistung mit reduzierten Druckvers.

🇫🇷 Notre Clapets pour CO₂ peut être monté dans toutes les positions et offrir la meilleure performance avec une baisse de la pression réduite.

🇹🇷 Check Valflerimiz her yönde monte edilebilirler ve basınç düşümlerinde en iyi performansı sağlarlar.



Valvole a di Ritegno per R744-CO₂ 120bar R744-CO₂ 120bar Check Valves



Legenda simboli

Dimensions

Code	Dimensions	Weight	ButtWelding ∅ Steel Tubes		B	Length	∅ Max	KV DDP=1bar
REF	DN	(g)	∅ E mm	∅ I mm	mm	mm	mm	m ³ /h
REF3.1.N.010.1.120	10 mm	96	10	8	9	112	24	1,40
REF3.1.N.012.1.120	12 mm	100	12	10	12	121	24	2,95
REF3.1.N.016.3.120	16 mm (5/8")	280	16	14	14	155	37	4,10
REF3.1.N.018.1.120	18 mm	305	18	16	14	155	37	4,55
REF3.1.N.022.1.120	22 mm	345	22	18	17	180	37	5,10
REF3.1.N.028.1.120	28 mm	1100	28	24	20	230	60	12,75
REF3.1.N.035.3.100	35 mm (1-3/8")	1736	35	31	25	235	70	24,90

N: standard spring valve with minimum Opening Pressure Differential =0,1 bar

R: reinforced spring valve with minimum Opening Pressure Differential =0,3 bar

Fittings & Adapters



Bocchettoni SAE Flare per tubi in pollici – SAE Flare nuts (inch tubing) – Bördelmutter für Rohre in Zollen – Raccords SAE Flare pour tuyaux en pouces

CODE	SAE FLARE	COPPER TUBE		DIMENSIONS		
		Ø	Ø	ØD	L	CH
		(in)	(mm)	(mm)	(mm)	
NS4-4	1/4"	1/4"	-	7	15	17
NS4-6	3/8"	3/8"	-	9,7	18,1	22
NS4-8	1/2"	1/2"	-	13	20	24
NS4-10	5/8"	5/8"	-	16,2	21	27

Bocchettoni SAE Flare ciechi – SAE Flare cap nuts – Blindstutzen Bördel – Raccords SAE Flare borgne

CODE	SAE FLARE	COPPER TUBE		DIMENSIONS		
		Ø	Ø	ØD	L	CH
		(in)	(mm)	(mm)	(mm)	
N5-4	1/4"	Cieco	Cieco	-	15,5	17
CAP NUT		Blind	Blind	-	16	19
N5-5	5/16"	Borgne	Borgne	-		
CAP NUT						

Bocchettoni SAE Flare per tubi in mm – SAE Flare nuts (metric tubing) – Bördelmutter für Rohre in Millimetern – Raccords SAE Flare pour tuyaux en millimètres

CODE	SAE FLARE	COPPER TUBE		DIMENSIONS		
		Ø	Ø	ØD	L	CH
		(in)	(mm)	(mm)	(mm)	
NS4-4/6	1/4"	-	6	7	15	17
NS4-6/10	3/8"	-	10	10,2	19,5	22
NS4-8/12	1/2"	-	12	12,2	20	24
NS4-10/16	5/8"	-	16	16,2	21	27

Maniccotti girevoli – SAE Flare twin nuts – Doppelmutter – Manchons Pivotants

CODE	SAE FLARE	COPPER TUBE		DIMENSIONS		
		Ø	Ø	ØD	L	CH
		(in)	(mm)	(mm)	(mm)	
US4-4	1/4"	-	-	-	32	17
US4-6	3/8"	-	-	-	40	22
US4-8	1/2"	-	-	-	46	25
U4-10	5/8"	-	-	-	51	28

Giunti SAE Flare – SAE Flare unions – Verbinder – Joints SAE Flare

CODE	SAE FLARE	COPPER TUBE		DIMENSIONS		
		Ø	Ø	ØD	L	CH
		(in)	(mm)	(mm)	(mm)	
U2-4	1/4"	-	-	-	38	12
U2-6	3/8"	-	-	-	44	17
U2-8	1/2"	-	-	-	50	20
U2-10	5/8"	-	-	-	58	23

Giunti SAE Flare ridotti – Reducing SAE Flare unions – Reduzierverbinder – Joints SAE Flare réduits

CODE	SAE FLARE	COPPER TUBE		DIMENSIONS		
		Ø	Ø	ØD	L	CH
		(in)	(mm)	(mm)	(mm)	
UR2-64	1/4" x 3/8"	-	-	-	42	17
UR2-86	3/8" x 1/2"	-	-	-	48	20
UR2-106	3/8" x 5/8"	-	-	-	52	23
UR2-108	1/2" x 5/8"	-	-	-	54	23

Adattatore ODS-rotalock – Rotalock to tube-O adaptor – Rotalock-Verschraubung – Raccord à visser Rotalock

CODE	ROTALOCK (RL)	ODS CONNECTION	L
REF50.02.27.012	1" – 14UNS	12 mm - 1/2"	23 mm
REF50.02.27.016	1" – 14UNS	16 mm - 5/8"	23 mm
REF50.03.32.022	1-1/4" – 12 UNF	22 mm - 7/8"	35 mm
REF50.03.32.028	1-1/4" – 12 UNF	28 mm	35 mm
REF50.04.46.035	1-3/4" – 12 UNF	35 mm - 1-3/8"	38 mm
REF50.05.60.042	2-1/4" – 12 UN	42 mm	38 mm

SAE	THREADING
1/4"	7/16" – 20 UNF
3/8"	5/8" – 18 UNF
1/2"	3/4" – 16 UNF
5/8"	7/8" – 14 UNF
3/4"	1-1/16" – 14 UNF
7/8"	1-1/4" – 12 UNF
1"	1-3/8" – 12 UNF

Raccordi & Adattatori Fittings & Adapters



Fittings & Adapters



SAE	THREADING
1/4"	7/16" - 20 UNF
3/8"	5/8" - 18 UNF
1/2"	3/4" - 16 UNF
5/8"	7/8" - 14 UNF
3/4"	1-1/16" - 14 UNF
7/8"	1-1/4" - 12 UNF
1"	1-3/8" - 12 UNF

Tubi capillari - Capillary Tubes - Kapillarrohre - Capillaires pour pressostats



CODE	SAE FLARE	COPPER TUBE	DIMENSIONS	
	Nuts		L (mm)	CH
REF61.05.00.050	1/4"	CAPILLARY TUBE	500	17
REF61.05.00.100	1/4"	WITH NUTS	1000	17
REF61.05.00.150	1/4"		1500	17
REF61.06.00.150	1/4"	CAPILLARY TUBE WITH NUTS AND OPENER VALVE	1500	17

Tubi capillari - Capillary Tubes - Kapillarrohre - Capillaires pour pressostats



CODE	SAE FLARE	COPPER TUBE	DIMENSIONS	
	Nuts		L (mm)	CH
REF62.06.00.005	1/4"	SCHRADER VALVE	50	11
REF62.06.00.010	1/4"	WITH COPPER TUBE D=6x0,75mm	100	11
REF62.06.00.030	1/4"		300	11

Guarnizioni troncoconiche in rame - Copper Gaskets - Kegeltstumpffartige Kupferdichtungen - Garnitures troncoconiques en cuivre



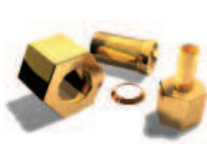
CODE	SAE FLARE	COPPER TUBE		DIMENSIONS	
		Ø (in)	Ø (mm)	ØD (mm)	L (mm) CH
B2-4	1/4"				
B2-6	3/8"	-	-	-	-
B2-8	1/2"				
B2-10	5/8"				

Cappucci in rame - Copper seal caps - Kupferkappen - Cauchons en cuivre



CODE	SAE FLARE	COPPER TUBE		DIMENSIONS	
		Ø (in)	Ø (mm)	ØD (mm)	L (mm) CH
B1-4	1/4"				
B1-6	3/8"	-	-	-	-
B1-8	1/2"				
B1-10	5/8"				

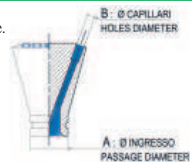
Adattatori Flare-ODS con guarnizione in rame - Flare-ODS adapters with copper seal - Loet Adapter mit Kupfer ring - Adapteurs Flare-ODS avec le joint en cuivre



CODE	UNF	SAE	ODS
REF64.09.14.006	7/16" - 20UNF	1/4"	6 mm
REF64.09.14.014	7/16" - 20UNF	1/4"	1/4"
REF64.09.38.006	5/8" - 18UNF	3/8"	6 mm
REF64.09.38.014	5/8" - 18UNF	3/8"	1/4"
REF64.09.38.038	5/8" - 18UNF	3/8"	3/8"
REF64.09.38.010	5/8" - 18UNF	3/8"	10 mm
REF64.09.12.010	3/4" - 16UNF	1/2"	10 mm
REF64.09.12.012	3/4" - 16UNF	1/2"	12 mm
REF64.09.12.127	3/4" - 16UNF	1/2"	1/2"
REF64.09.58.012	7/8" - 14UNF	5/8"	12 mm
REF64.09.58.058	7/8" - 14UNF	5/8"	16 mm - 5/8"
REF64.09.34.018	1- 1/16" - 14UNS	3/4"	18 mm
REF64.09.34.034	1- 1/16" - 14UNS	3/4"	3/4"
REF64.09.78.022	1-1/4" - 12UNF	7/8"	22 mm - 7/8"

Distributori tipo "Venturi" - "Venturi"-type Distributors - "Venturi" Verteiler - Distributeurs "Venturi"

Ask for a quote for Distributors specifying A, B, C dimensions and we will suggest you the right choice.



Raccordi & Adattatori Fittings & Adapters





THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and its partner

CISQ/RINA

hereby certify that the organization

IRD INIZIATIVE S.r.l.

VIA CHIAVORNICCO, 76 33084 CORDENONS (PN) ITALIA

in the following operative units

VIA CHIAVORNICCO, 76 33084 CORDENONS (PN) ITALIA

for the following field of activities

DESIGN, PRODUCTION AND TRADE OF BALL VALVES AND REFRIGERATION COMPONENTS

has implemented and maintains a

Quality Management System

which fulfills the requirements of the following standard:

ISO 9001:2000*Registration Number:***IT-33823**

First Issue : 2003-12-24

Current Issue : 2006-12-29



René Wasmer

President of IQNET



Gianrenzo Prati

President of CISQ

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CERTIFICATO N.

10092/03/S

CERTIFICATE No

SI CERTIFICA CHE IL SISTEMA DI GESTIONE PER LA QUALITÀ DI
IT IS HEREBY CERTIFIED THAT THE QUALITY MANAGEMENT SYSTEM OF

IRD INIZIATIVE S.r.l.

VIA CHIAVORNICCO, 76 33084 CORDENONS (PN) ITALIA

NELLE SEGUENTI UNITÀ OPERATIVE / IN THE FOLLOWING OPERATIONAL UNITS

VIA CHIAVORNICCO, 76 33084 CORDENONS (PN) ITALIA

È CONFORME ALLA NORMA
IS IN COMPLIANCE WITH THE STANDARD

ISO 9001:2000

PER I SEGUENTI CAMPI DI ATTIVITÀ / FOR THE FOLLOWING FIELD(S) OF ACTIVITIES

PROGETTAZIONE, PRODUZIONE E COMMERCIALIZZAZIONE DI VALVOLE A SFERA E COMPONENTI PER LA
REFRIGERAZIONE

EA 18
EA 29A

DESIGN, PRODUCTION AND TRADE OF BALL VALVES AND REFRIGERATION COMPONENTS

Riferirsi al Manuale della Qualità
per i dettagli delle esclusioni ai
requisiti della norma

Reference is to be made to the
Quality Manual for details
regarding the exemptions from the
requirements of the standard

La validità del presente certificato è subordinata a sorveglianza periodica annuale / semestrale ed al riesame completo del sistema di gestione con periodicità triennale.

The validity of this certificate is dependent on an annual / six monthly audit and on a complete review, every three years, of the management system.

Uso e la validità del presente certificato sono soggetti al rispetto del documento RINA. Regolamento per la Certificazione di Sistemi di Gestione per la Qualità

The use and validity of this certificate are subject to compliance with the RINA document - Rules for the certification of Quality Management Systems

Prima emissione

First Issue

24.12.2003

Dott. Ing. Domenico Andreis
(Direttore Certificazione e Servizi Industriali)

Emissione corrente

Current Issue

29.12.2006

RINA SpA

Via Corsica 12 - 16128 Genova Italy



CISQ è la Federazione Italiana di
Organismi di Certificazione dei
sistemi di gestione aziendale

CISQ is the Italian
Federation of management
system Certification Bodies

SINCERT
SISTEMI DI GESTIONE PER LA QUALITÀ

BOQ N° 002A - 002A N° 002D
PQC N° 002B - PQA N° 002C
SCM N° 002F - SSI N° 001G

Member degli Accordi di Milano
Riconoscimento EA e IAF
Agreement of EA and IAF Mutual
Recognition Agreements

FEDERAZIONE
CISQ

www.cisq.com

Applicazione della Direttiva 2002/95/CE. D.L.151-25/07/2005 (G.U.135/L-29/07/2005)

In data 27/01/03 il Parlamento Europeo e il Consiglio dell'Unione Europea hanno sottoscritto per tutti i Paesi aderenti la Direttiva 2002/95/CE anche nota come RoHS, la quale prevede il divieto e la limitazione di utilizzo di piombo (Pb), mercurio (Hg), cadmio (Cd), cromo esavalente (Cr +6) ed alcuni ritardanti di fiamma nelle apparecchiature elettriche ed elettroniche quali Bifenili Polibromurati (PBB) ed Eteri di Difenili Polibromurati (PBDE).



La Direttiva 2002/96/CE, anche nota come WEEE, volta a prevenire e limitare il flusso di rifiuti di apparecchiature destinati alle discariche, attraverso politiche di riuso e riciclaggio degli apparecchi e dei loro componenti. La Direttiva applica il concetto della Responsabilità estesa del produttore (chi inquina paga). Difatti i produttori avranno l'obbligo di provvedere al finanziamento delle operazioni di raccolta, stoccaggio, trasporto, recupero, riciclaggio e corretto smaltimento delle proprie apparecchiature una volta giunte a fine vita. Tale responsabilità finanziaria sarà di tipo individuale per i prodotti immessi sul mercato dopo l'entrata in vigore della Direttiva (13 Agosto 2005) e collettiva per i prodotti immessi prima di tale data.

Nell'allegato della stessa Direttiva sono ammesse deroghe al divieto d'uso delle suddette sostanze pericolose e tra queste sono di interesse del settore della refrigerazione e del condizionamento sono riportate alcune esenzioni per particolari tipi di applicazioni:

- A2.6 Piombo come elemento di lega nell'acciaio contenente fino allo 0,35% di piombo in peso, alluminio contenente fino allo 0,4% di piombo in peso e leghe di rame contenenti fino al 4% di piombo in peso.
- A2.9 Cromo esavalente come anti-corrosivo nei sistemi di raffreddamento in acciaio al carbonio nei frigoriferi ad assorbimento.

La ditta IRD per recepire queste importanti iniziative a salvaguardia dell'ambiente ha provveduto a:

- Far in modo che il 90% dei materiali di imballaggio sia riciclabile.
- Evitare, per quanto in suo potere, l'uso di Cd, Hg, PBB, PBDE nella produzione già dall'anno 2003.
- Adottare leghe a contenuto di piombo rientrante nei limiti RoHS.
- Limitare l'uso di Cromo Esavalente al trattamento superficiale (zinco-tropicalizzazione), comunque mantenendone il tenore al di sotto dello 0,003% in peso.

IRD garantisce che dal luglio 2006, il 100% dei prodotti sono in accordo con la direttiva RoHS.

RoHS and WEEE Compliance Statement. 2002/95/CE Directive.

On January 27, 2003 the European Parliament and the Council of the European Union authorized Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment. This new Directive, also referred to as RoHS ("ro-has") requires that manufacturers reduce usage of six hazardous substances to minimum acceptable levels by July of 2006.



This Directive will ban the placing on the EU market of new electrical and electronic equipment containing more than agreed levels of Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent chromium (Cr +6),

Polybrominated biphenyl (PBB) and Polybrominated diphenyl ether (PBDE) flame retardants (art.4). On the same date, Directive 2002/96/EC or WEEE (waste electrical and electronic equipment) was authorized. This Directive encourages and sets specific criteria for the collection, handling and recycling of electric and electronic waste in particular (art.10):

- Sets requirements for the amount of WEEE collection (separate from households);
- Holds resellers accountable for providing WEEE returns, free of charge;
- Requires WEEE to be treated;
- Requires manufacturers to mark EEE products with the WEEE symbol (trash can with "X").

Both Directives impact the entire electronics industry at every level, from the retail store, to manufacturers, distributors and OEMs, but restrictions shall not apply to applications listed in annex 2 and in particular for HVAC manufacturers:

- A2.6 Lead as an alloying element in steel containing up to 0,35% lead by weight, aluminium containing up to 0,4% lead by weight and as a copper alloy containing up to 4% lead by weight.
- A2.9 Hexavalent chromium as anticorrosion of the carbon steel cooling system in absorption refrigerators.

In any case our strategy to support these environmentally important initiatives include:

- 90% of all IRD packing materials are already recyclable
- IRD products have not included the intentional use of Cd, Hg, PBB, PBDE since 2003.
- Lead in copper alloys products is present within the accepted RoHS limits.
- Hexavalent Chromium in yellow zinc plating treatment not exceeds 0,003% by weight.

So IRD guarantees that since July of 2006, 100% of IRD products are RoHS compliant.

Garanzia

Guarantee • Garantie • Gewährleistung • Garanti



Tutti i nostri prodotti sono garantiti per la durata di 12 mesi contro difetti congeniti dei materiali e/o delle lavorazioni.
Il periodo di garanzia decorre dalla data di consegna al trasportatore o dalla data della bolla doganale.

*All our products are 12 months guaranteed against defective materials and/or workmanship.
The guarantee runs from the date in which the goods have been forwarded by the transporter or from the custom certificate (or B/L).*



Alle unsere Produkte sind fuer eine Zeit bis 12 Monate gegen Produktions-; Herstellungsfehler garantiert.
Die Garantie-periode beginnt vom Datum der Anlieferung oder Zollschein Datum.

*Tous nos produits sont garantis pour 12 mois contre défaut du materiel ou/et de production.
Le période de garantie part de la date de livraison au transporteur ou de la date du document douanier.*



Tüm ürünlerimiz malzeme ve/veya işçilik hatalarına karşı 12 ay garantilidir.
Garanti süresi mal tesliminden veya gümrük tarihinden itibaren geçerlidir.

*Вся наша продукция гарантирована сроком на 12 месяцев распространяющаяся на производственные дефекты материала.
Гарантийный срок с момента поставки грузоперевозчику или от даты таможенной накладной.*



Unità di misura / Measures

PRESSIONI / PRESSURE

Tabella di conversione delle unità di pressione / Conversion table for pressure units

a/to da/from	bar	mbar	Pa	kPa	psi
1 bar	1	1000	100 000	100	14,5
1 mbar	0,001	1	100	0,1	0,0145
1 Pa	0,00001	0,01	1	0,001	0,000145
1 kPa	0,01	10	1000	1	0,145
1 psi	0,069	69	6900	6,9	1
1 Torr	0,00133	1,3	133,3	0,1333	0,0193

Relazioni addizionali / Further relations

1 Torr	1 mmHg
1 Torr	1000 Micron
1 Micron	0,00133 mbar

POTENZA / POWER

Tabella di conversione delle unità di potenza / Conversion table for power units

da/a	WATT	Kcal/h	BTU/h
WATT	1	0,860	3,4
Kcal/h	1,163	1	3,95
BTU/h	0,293	0,25	1

SISTEMA METRICO / METRIC SYSTEM

Tabella di conversione del sistema metrico / Conversion table for metric system

Sistema metrico/Metric system Sistema USA/US system	Equivalente USA/USA equivalent Equivalente metrico/Metric equivalent
Centimetri (cm) Pollici (in)	0,369 pollici 2,54 centimetri
Metri (m) Piedi (ft)	3,28 piedi 0,305 metri
Metri (m) Yard (yd)	1,09 yard 0,914 metri
Chilometri (km) Miglia (mi)	0,621 miglia 1,61 chilometri
Centimetri quadrati (cm ²) Pollici quadrati (in ²)	0,155 pollici quadrati (in ²) 6,45 centimetri quadrati
Metri quadrati (m ²) Piedi quadrati (ft ²)	10,8 piedi quadrati 0,093 metri quadrati
Metri quadrati (m ²) Yard quadrate (yd ²)	1,2 yard quadrate 0,836 metri quadrati
Chilometri quadrati (km ²) Miglia quadrate (mi ²)	0,386 miglia quadrate 2,56 chilometri quadrati
Ettari (ha) Acri	2,47 acri 0,405 ettari
Metri cubi (km ³) Piedi cubi (ft ³)	35,28 piedi cubi 0,028 metri cubi
Litri (l) Quart (lq) (qt)	1,06 quart (lq) 0,946 litri
Litri (l) Galloni (gal)	0,264 galloni 3,7853 litri
Grammi (g) Once (avdp) (oz)	0,035 once (avdp) 28,3 grammi
Chilogrammi (kg) Libbre (avdp) (lb)	2,2 libbre (avdp) 0,454 chilogrammi

GENERAL TERMS OF PURCHASE

1. PRODUCTS

The products object to the Terms of Purchase can be found whether in the Refrigerator Catalogue or in the commercial offers inside it along with the designs and specifications. Specifications such as material, weight, size, capacity, services and other information contained in the catalogue are supplied just as information for the BUYER and they will not be considered compulsory for IRD Iniziative srl. The catalogue does not represent an offer for sale and IRD Iniziative srl exercises the right to change them at its discretion at any time without notice or cease producing or commercializing any product. Such variations, included replacement of material with others reasonably similar, will not be accepted as an objection on the part of the BUYER. The BUYER declares to have had express knowledge of the aforementioned catalogue or as an alternative of the commercial offer enclosed.

2. PRICES AND TERMS OF PAYMENT

The prices are ex-works of IRD Iniziative srl unless a different covenant which has to be expressly stated in the commercial offer or in the purchase order. Duties, taxes and charges are expected to be paid by the BUYER. The possible advance payments on the sales prices are always unproductive and serve to bind the BUYER. The payments are always net at the Seller's address. Therefore, it creates neither a case or innovation of the original loan or damage to the agreement of personal property or change of the disregarded territorial jurisdiction. Delayed payments run, from the expiry date, with full rights and without pledging any delay, the corresponding interests to the bank rate of the European Central Bank plus 5,0%. Failure to comply the payment terms or any other contract conditions on the part of the BUYER, entitles IRD Iniziative srl to suspend or delay the exercise of its contractual obligations or rescind the contract with simple notice. The contract resolution involves damage compensation. IRD Iniziative srl is authorized to retain advance payment as penalty in case the BUYER overturns the order.

3. OFFERS AND ORDERS

IRD Iniziative srl is bound to the offer for 30 days from the day of the shipment. IRD Iniziative srl reserves the right to accept or refuse the orders. The BUYER's orders must be addressed in writing or by fax and they will remain irrevocable for the BUYER after two days of the shipment. The orders placed by phone should be subsequently regularized by the BUYER in writing within two days. Such orders or any other supply condition regarding them, are accepted only if they are confirmed in writing by IRD Iniziative srl. If the confirmation contains changes or additions to the order, the contract is concluded unless waived in writing by the BUYER within four days from the day of the confirmation of the shipment. In case the order is rejected, IRD Iniziative srl agrees to communicate the BUYER in writing within two days from the day of the placement of the order and possible advance payments (see "Prices and Terms of Payment") will be reimbursed to the BUYER.

4. DELIVERY

Delivery time runs from the moment the contract is considered concluded and, if necessary, from the moment the elements of the contract are supplied and IRD Iniziative srl is provided with the necessary information and the BUYER has duly paid for the maturities. In all cases, the term of delivery is computed in working days and with reason, adequately extended due to events beyond the control of IRD Iniziative srl, such as strikes, lock-outs, fire, flood, late delivery of parts from suppliers, engine failure or other unforeseen circumstances. A delayed readiness of accessory parts that does not prevent the use of the related manufacture product.

Partial delivery is always admitted. The delivery is intended to be carried out in any case on the business premises of IRD Iniziative srl upon submission of a notice or failing that, upon remission to the Carrier. This even when, for express derogation, the price includes freight. From this moment onwards all the risks on the goods are transferred to the BUYER, and will also be at buyer's risk the charges of unloading, storage and safe keeping, maintenance and insurance. If the BUYER does not remove the goods at the date established in the order, the order will be cancelled after three months of such date.

5. PACKAGING AND SHIPPING

The packing is at the BUYER's expense and it is invoiced at cost price. Deliverables travel at the BUYER's risk even if it was sold free delivered. The insurance is carried out under strict directions of the BUYER and in any case at his expense.

6. WARRANTY

IRD Iniziative srl warrants that the Deliverables will conform with good quality and manufacture, in the sense that they commit themselves to repair or replace as new, in his indisputable judgement, free, in the shortest possible time, the parts that, within the warranty period, could present clear faults of material, manufacture or work which could render them unsuitable to the final use, that is without indemnification for the direct or indirect damages of any kind or reason. The warranty is six (6) months for construction details or repaired parts and twelve (12) months for constructions details or new parts. The parts to be repaired or supplied as new should be returned on the IRD Iniziative srl premises at care, expense and risk of the BUYER, the repaired ones or supplied as new are delivered free at works for the BUYER.

The replacements remain IRD Iniziative srl's property. The expenses for the disassembly and assembly of the parts to be repaired or supplied as new are at the expense of the BUYER. The BUYER warranty's right expires if he does not object, at least one time, the payment conditions, and if the faults claimed were originated due to the BUYER itself, employees or third parties, such as wrong installation, inexperience with respect to delivery, wrong and abnormal use, overload, bad and wrong maintenance, use of fuel, improper lubricants, repairs, replacements, modifications or any other tampering performed or have performed by the BUYER, without IRD Iniziative srl authorization nor for Acts of God.

All the parts which by nature or use are subjected to normal attrition or inevitable deterioration remain excluded from the warranty. For those parts of the delivery that IRD Iniziative srl could buy from other Companies are exclusively in force, toward the BUYER, the possible warranties established by such companies. Vices and faults must be denounced to the Seller in writing within the time prescribed by law. Damages caused to third parties remain excluded from the warranty, whether they are people or things, from the use to the damages due to lack of cold and lack of advantages derived from cease of production.

7. CLAIMS

The BUYER will inspect the products immediately and with accuracy and attention at the moment of the arrival on their own office and communicate at once to IRD Iniziative srl any shortage, fault or informality. Any damages of transport must be written on the carrier receipt. The notification on the part of the BUYER about the shortage, faults or non conformity of the products must be done in writing and must contain a complete description of the faults, shortage or non compliance, specifying the shipping documents corresponding to the products and the parcels under dispute. After eight (8) days from the product's arrival date on the premises of the BUYER without notifying the shortage or non compliance with the products, these will be considered as definitively accepted from the BUYER. The BUYER will not be able, in any case, suspend or delay the payments, not even in case of objection, claim or controversy.

8. TITLE RETENTION AGREEMENT

According to the possible extended payment envisaged hereby, the BUYER explicitly declares to accept the retention of title on every thing object to the present commission, in favour of IRD Iniziative srl pursuant to and by effect of the articles 1523, 1524 and the followings of the Civil Code. And so, until the BUYER has fully paid, in legal currency, the agreed price, the goods object to the delivery remain property of IRD Iniziative srl. In case of cancellation of the order/s, IRD Iniziative srl can take possession of the goods wherever they are, even united or incorporated in property of the BUYER or a third party, and not being valid for him the legal regime of ownership or property for destination or incorporation, not even by expressed covenant. During the aforementioned period, the BUYER assumes the obligations and responsibility of depository for the goods delivered, and commits to guard and insure against any damage, destruction, loss, etc. The BUYER cannot alienate the goods which are the object hereunder until they are balanced in legal currency, because until such circumstance, they are IRD Iniziative srl's property. In default of payment, even only one, the BUYER is prevented from the benefit of validity and IRD Iniziative srl can ask for the restitution of the deliveries seizing as indemnity the payments already done, except the faculty of claiming the damages suffered. In case of cancellation of the order/s before the delivery due to breach on the part of the BUYER, the possible proportion deposited when ordering is due to the supplier as a penalty in conformity with the art. 1382 of the Civil Code.

9. VALID LAW AND COMPETENT JURISDICTION

The sales under the present conditions are regulated by the Italian Law. In case of controversy the competent jurisdiction is the one in Pordenone.



iniziative

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