

## POPPET AND BALL QUICK COUPLINGS



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# POPPET AND BALL QUICK COUPLINGS: INDEX

The quick couplings with poppet or ball valve system, are the traditional couplings that thanks to their world-wide interchangeability are still today very used in several hydraulic applications mainly in the agricultural and industrial field.

• General instructions for selection and use of the products	Page 2
<b>STANDARD</b>	
• "BIR" Series (Interchange ISO 7241-1 series "A")	Page 5
• "I" Series (Interchange ISO 7241-1 series "A")	Page 10
• "IRB" Series (Interchange ISO 7241-1 series "B")	Page 15
• "IR-V" Series (Interchange with similar couplings) (Interchange ISO 7241-1 series "A" size 1/2 only)	Page 20
• "IR" Series (Interchange with similar couplings) (Interchange ISO 7241-1 series "A" size 1/2 only)	Page 25
<b>PUSH-PULL (Breakaway)</b>	
• "IRS-V" Series (Interchange ISO 7241-1 series "A")	Page 30
• "IRS" Series (Interchange ISO 7241-1 series "A")	Page 35
<b>CONNECTABLE WITH RESIDUAL PRESSURE</b>	
• "BIR-PC" Series (Interchange ISO 7241-1 series "A")	Page 40
<b>HIGH PRESSURE</b>	
• "IV-HP" Series (Interchange with similar couplings)	Page 45
<b>STAINLESS STEEL</b>	
• "IRBX" Series (Interchange ISO 7241-1 series "B")	Page 50
<b>BRASS</b>	
• "IRBO" Series (Interchange ISO 7241-1 series "B")	Page 55
<b>ACCESSORIES</b>	
• Protection caps for "BIR" series	Page 60
• Protection caps for "IR" and "IR-V" series	Page 62
<b>TECHNICAL INFORMATION</b>	
• Technical features and terms glossary	Page 63
• Seals and relative temperature range	Page 64
• Conversion factors	Page 64

The texts, data and illustrations indicated in this catalogue, may be changed by Stucchi S.p.A at any time without notice.  
(CAT. POPPET-BALL - March 2008).

# GENERAL INSTRUCTIONS FOR SELECTION AND USE OF THE PRODUCTS

The incorrect use of products can cause malfunctioning and safety risks.

Therefore, before using Stucchi products, we strongly recommend reading and following the "general instructions for selection and use of the products" and the "instructions of use" of the specified product intending to use.

## **ATTENTION!!!**

**A defect, a wrong choice or an improper use of products, can cause damage to persons, animals and objects.**

**It is MOST IMPORTANT to read and closely follow the instructions written below before selecting or using Stucchi products.**



## **1.0 GENERAL INSTRUCTIONS**

### 1.1 Context

These safety instructions form a supplement and shall be used as one document together with the technical documentation related to the specified product to be installed.

### 1.2 Safeguarding

It is recommended that all systems and equipment be protected so that safety of people, animals and objects will be guaranteed in case of defect of the product.

### 1.3 Distribution of the instruction

A copy of these instructions has to be supplied to every person responsible for the selection and/or usage of the products.

### 1.4 Responsibility of the user

Due to the most various range of operating use and conditions of the products, Stucchi does not guarantee that every product can be used for every application.

These safety instructions don't analyse all technical parameters that have to be considered by selecting the products.

The end user, through their own analyses and tests, is responsible for the following:

- Final selection of the product
- Ascertainment that the requirements of the end user are satisfied and that the predicted use does not present a safety risk.
- Supply of all warnings regarding the safety of the equipment on which Stucchi products will be used.

## **2.0 INSTRUCTIONS FOR SELECTION OF THE PRODUCT.**

### 2.1 Application fields

Check that the product is suitable for the specific application.

In case of doubt, contact the Stucchi customer service.

### 2.2 Type of product

Select the type of product most suitable for the working environment.

Flat face couplings: suitable for working environments where it is necessary to reduce to minimum the fluid loss during disconnection and to avoid dirt inclusion during connection.

Screw couplings: they are suitable for high working pressure and frequent impulses; they are connectable with high residual pressure.

Poppet valve couplings: widely used in the agricultural field.

### 2.3 Materials and treatments

Make sure that the materials and treatments of the product conform to the exposed working environment.

### 2.4 Dimensions

Choose the product with dimensions and flow suited to the circuit in order to avoid over stress damaging the product.

### 2.5 Flow inversion

For application with flow inversion during operation, use only products designed for that scope.

Flow inversion during operation generates turbulences inside the product that can cause damage on the components.

### 2.6 Thread

Choose the product with thread suitable for the application.

For high pressure conditions, over 50 MPa, products with taper thread NPT are recommended.

### 2.7 Type of medium

Verify that the seals of the product are compatible with the medium used.

Make sure that other not compatible fluids do not come in contact with the seals in case of maintenance.

Do not use the products with inflammable, explosive or dangerous fluids without approval of Stucchi S.p.A.

### 2.8 Medium temperature

Verify that the working temperature is within the functional limits of the coupling and its seals.

The couplings must not be connected and disconnected with a temperature higher than 80 degrees Celsius.

In case of connection-disconnection with temperature higher than 30 Celsius degrees, the operator must be protected using gloves and/or other devices to prevent any leakage or splashing causing injury to himself, persons, animals and objects.

### 2.9 Environment temperature

With extreme temperature conditions, the mechanical resistance of the products changes. The use and handling of couplings in case of ice can be difficult due to ice inclusion in the blocking mechanisms.

Use protective gloves in applications with hot and cold operating temperature.

### 2.10 Pressure

Verify always if the maximum working pressure of the product is the same or higher than the pressure peaks of the application.

Do not make confusion between the burst pressure and the maximum working pressure, so do not use the value of the burst pressure for your selection.



# GENERAL INSTRUCTIONS FOR SELECTION AND USE OF THE PRODUCTS

Check that the number of impulse cycles which the product has been tested is compatible with the impulse number of the application.

## 2.11 Residual pressure

For connection and disconnection with residual pressure use only couplings that are developed for this scope.

The term 'internal residual pressure' means: the static pressure retained in the system, which has not been generated by a working pump or other accessories in movement.

The structure of the machine or plant in which these products are placed, must be suitable to limit accidental splashing and fluid losses caused by wrong usage or malfunctioning of the product, in order to avoid direct and indirect damage on persons, animals or objects. The temperature of the fluid must not exceed the limits mentioned in point 2.8

## 2.12 Connection frequency

It is important to know the connection frequency with which the coupling is used, while this has significant influence on the life of both springs and seals.

An under-estimated value can cause unexpected fluid loss.

## 2.13 Safety device

If used in environments or machines in strict closeness at persons, animals or objects (1 meter), within easy accidental disconnection conditions, it is highly recommended to use ball locked couplings with security system or screw couplings and to make sure that the preventive disconnection mechanism is correctly screwed together.

## 2.14 Mechanical loads

Side loads, mechanical stresses in general and vibrations reduce significantly the life of the product and are often the cause of sudden damages.

It is recommended to assemble quick release couplings without risks of mechanical damage and over-loading caused by stress generated in flexible or rigid hoses and to assemble quick release couplings on hoses with proper dimensions referred to the nominal passage of the quick release coupling.

## 2.15 Rotation

In case of applications with rotation use only products developed for this scope.

In case of rotation between male and female part it is necessary to inform in advance Stucchi customer service or to provide the connection with swivel joints suitable for this scope.

## 2.16 Special applications

You should be advised to take particular attention to special applications (such as vacuum use, high temperature, etc...).

Please consult Stucchi customer service who is able to give instructions concerning the use of Stucchi products.

## 3.0 INSTRUCTIONS FOR STOCK PRESERVATION

For a correct preservation of the product and in order to avoid damage before even starting to use the product read carefully the following instructions.

### 3.1 Packaging

The products have to be kept in closed packaging to protect the components, mainly the seals, from dust and ultraviolet rays.

### 3.2 Environments

The products shall be kept in environments with low percentage of humidity, no condensation, no salt, protected from atmospheric factors, far away from heating devices and magnetic fields.

Eliminate equipment that can produce ozone, as this element is extremely destructive for the seals.

### 3.3 Protection cap

The protection cap assembled on the thread has to be removed at the moment of the product installation only.

### 3.4 Special packaging

In case of requests for special packaging contact the customer service.

## 4.0 INSTALLATION INSTRUCTIONS

### 4.1 Pre Installation inspections

Before installation of the product it is necessary to inspect it visually and to verify if the part number and description of the product refers to the one requested.

### 4.2 Use of flexible hoses

To absorb better the vibrations and mechanical stress on the connection mechanism of the couplings, it is suggested to use flexible hoses.

In this way you avoid vibrations of the circuit that cause accidental disconnection or damage on the coupling.

### 4.3 Hose assembling

The hose has to be assembled so that connection/disconnection of the couplings takes place in easy way and aligned position. Presence of high radial/axial forces creates misalignment of the couplings during connection/disconnection and can cause damage on the connection and sealing parts.

### 4.4 Adapter assembling

Use adapters and sealing systems conform to the thread of the product only.

To install and remove the couplings use proper tools and act only on flat spanner surfaces of the coupling. Do not use improper tools (spanner for hoses, bench vice, pincer etc.) while these can cause damage on the coupling with malfunction as result.

Use the tightening torque stabilized by the norm to screw the adapters.

### 4.5 Positioning of the coupling

It is suggested to install the couplings in such way that they can easily be connected and disconnected, reducing to the minimum the forces and risks for the operator.

It is suggested to protect the couplings using shelters and protections (see sector norms) to guarantee the security and to prevent damage.

## 5.0 INSTRUCTIONS OF USE

### 5.1 Modality of use

The modality of use changes in accordance to the type of product used.

For every type of product, the modality of use described in the catalogue or the specific usage instructions supplied by Stucchi have to be carefully followed. The system has to be immediately stopped and the product should be replaced whenever one of the following conditions will occur:

- Visible damage, damaged parts of the product, cracks and corrosion.
- Difficulties in connection and disconnection generated by too high force compared to the data mentioned in the catalogue.
- Presence of leakage.
- Malfunctioning of the valve.
- Block of the circuit.

In the above mentioned cases please contact Stucchi customer service for information.

### 5.2 Connection / Disconnection

Before connecting, the parts of the couplings involved in the connection have to be cleaned. Connection with dirty parts may cause damage such as unexpected and dangerous leakage on the coupling.

Another consequence of dirt is contamination of the system.

Do connect and disconnect the coupling only as indicated in the modality of use: do not use other unsuitable tools.

### 5.3 Mechanical damage

The product shall not be exposed to mechanical damages while they can cause damage and malfunctioning.

Do not use tools to open the valves to release residual pressure trapped in the circuit.

### 5.4 Circuits cleaning

Use the products in clean circuits.

Dirt can damage components of the product and cause malfunctioning.

### 5.5 Protection caps

Use anti-dust caps when coupling is disconnected to avoid dirt and contamination and to protect the surface from accidental damage caused by collisions.

### 5.6 Use of semi-couplings of other manufacturers.

Do not connect Stucchi half-couplings with other not compatible half-couplings.

In case of connection of a Stucchi half-coupling with a half-coupling from another manufacturer, do not exceed the lowest nominal pressure of the two products.

## 6.0 MAINTENANCE INSTRUCTIONS

The good functional of product is often compromised by a lack of maintenance.

To avoid unexpected damage that can cause times of arrest and safe risks it is necessary to apply maintenance periodically.

The period dedicated to the maintenance of the product has to be defined by the user and depends on the type of application and on the working conditions the product is exposed to.

### 6.1 Ordinary - Preventive maintenance

First, the product should be well cleaned and the area where it is installed as well, then you should check and verify the following steps:

- Absence of breakage or various damage on the products.
- Absence of leakage in general.
- Correctness of tightening torque of the adapters.
- Check the level of circuit contamination.
- The connected parts or the parts in movement should be greased with grease compatible with the seals assembled in the products.
- The replacement of the coupling should be planned in accordance with the requested endurance for the specific application.

### 6.2 Repair

In case of reparation of the products it is recommended to follow Stucchi's specific instructions and use spare parts, tools and documentation supplied by Stucchi only.

Please contact Stucchi customer service for the above specific information.

IT IS THE RESPONSIBILITY OF THE USER TO SELECT, INSTALL AND USE THE QUICK RELEASE COUPLING IN THE CORRECT WAY.

For more information please contact the Stucchi customer service.





## Series: **BIR**

**INTERCHANGE:** ISO 7241-1 series "A"

### MAIN APPLICATIONS

- Agricultural equipment
- Industrial equipment

"BIR" is a poppet valve quick coupling series, interchangeable with international standard ISO 7241-1 "A", the series is manufactured in carbon steel with zinc plated surface treatment. This series offers worldwide interchangeability and the availability of a wide range of sizes from 1/4" thru 2". This makes the "BIR" series one of the most widely used in a range of hydraulic applications mainly in agricultural and industrial fields.

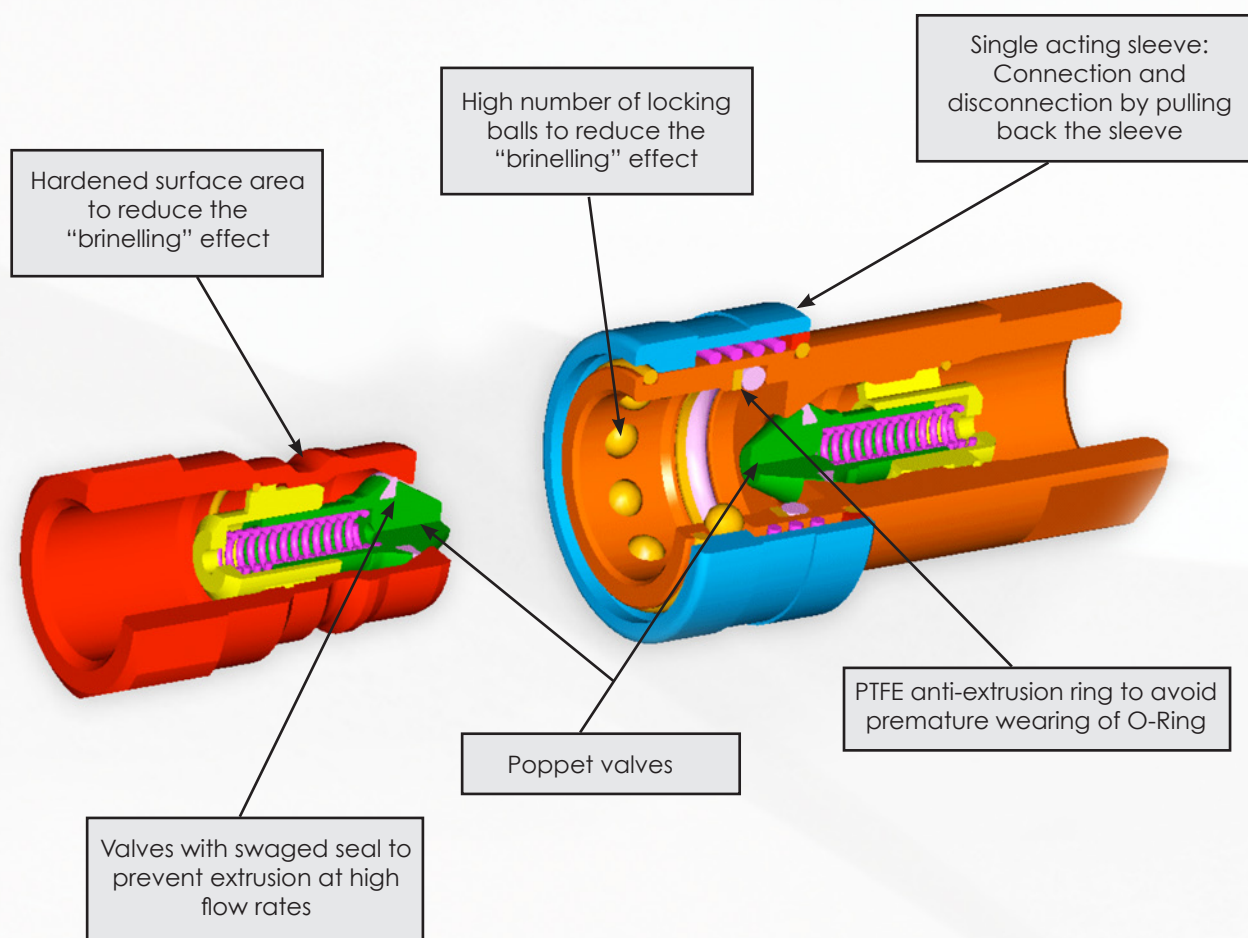


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## TECHNICAL FEATURES AND OPTIONS

- Interchangeability: ISO 7241-1 series "A"
- Valve system: Poppet valve
- Mechanical connection: Locking balls
- Connection system: Pulling back the sleeve and pushing one half towards the other
- Disconnection system: Pulling back the sleeve
- Connection with residual pressure: Not allowed
- Disconnection with residual pressure: Not allowed
- Threads available: BSP, NPT
- On request: Free flow version (no valving)
- Construction material: Carbon steel
- Surface treatment: CrIII zinc plated
- Springs: C72 steel
- Balls: Hard steel 100 C6
- Seals: standard in NBR (Nitrile)
- Seals on request: VITON
- Anti-extrusion rings: PTFE



## BENEFITS

- The poppet valve with elastomer seal provides maximum sealing of the couplings when disconnected.
- Shape of internal parts is designed to reduce turbulence and pressure drop.
- Compact slim design.
- Simple to use.



## HOW TO USE

- Before connecting clean the mating parts of the couplings to avoid contamination in the circuit.
- To couple pull back the sleeve of the female coupling, align the female with the male coupling and push one into the other until both halves are fully connected and release the sleeve.
- To uncouple pull back the sleeve of the female coupling, pull out the mating half.

## WARNING!

- Do not couple-uncouple with flow and/or pressure in the circuit.
- Use protection whenever connecting or disconnecting with high temperature (max. allowed 80°C, 176 °F).
- When the couplings are disconnected, it is suggested to use the protection caps.

## PERFORMANCE

Description	Size	ISO Size	Rated flow		Max. flow suggested		Connect force		Disconnect force		Spillage *
	Inch	mm	l/min	GPM	l/min	GPM	N	lbf	N	lbf	ml
BIR14	1/4	6,3	12	3,18	12	3,18	60	13,50	25	5,63	0,70
BIR38	3/8	10,0	23	6,10	46	12,19	90	20,25	30	6,75	1,20
BIR12	1/2	12,5	45	11,93	90	23,85	70	15,75	55	12,38	2,10
BIR34	3/4	20,0	74	19,61	148	39,22	140	31,50	55	12,38	5,20
BIR100	1	25,0	100	26,50	200	53,00	190	42,75	55	12,38	9,00
BIR114	1-1/4	31,5	189	50,09	378	100,17	230	51,75	55	12,38	27,00
BIR112	1 1/2	40	288	76,32	750	198,75	250	56,25	100	22,50	49,00
BIR200	2	50	379	100,44	1000	265,00	280	63,00	35	7,88	75,00

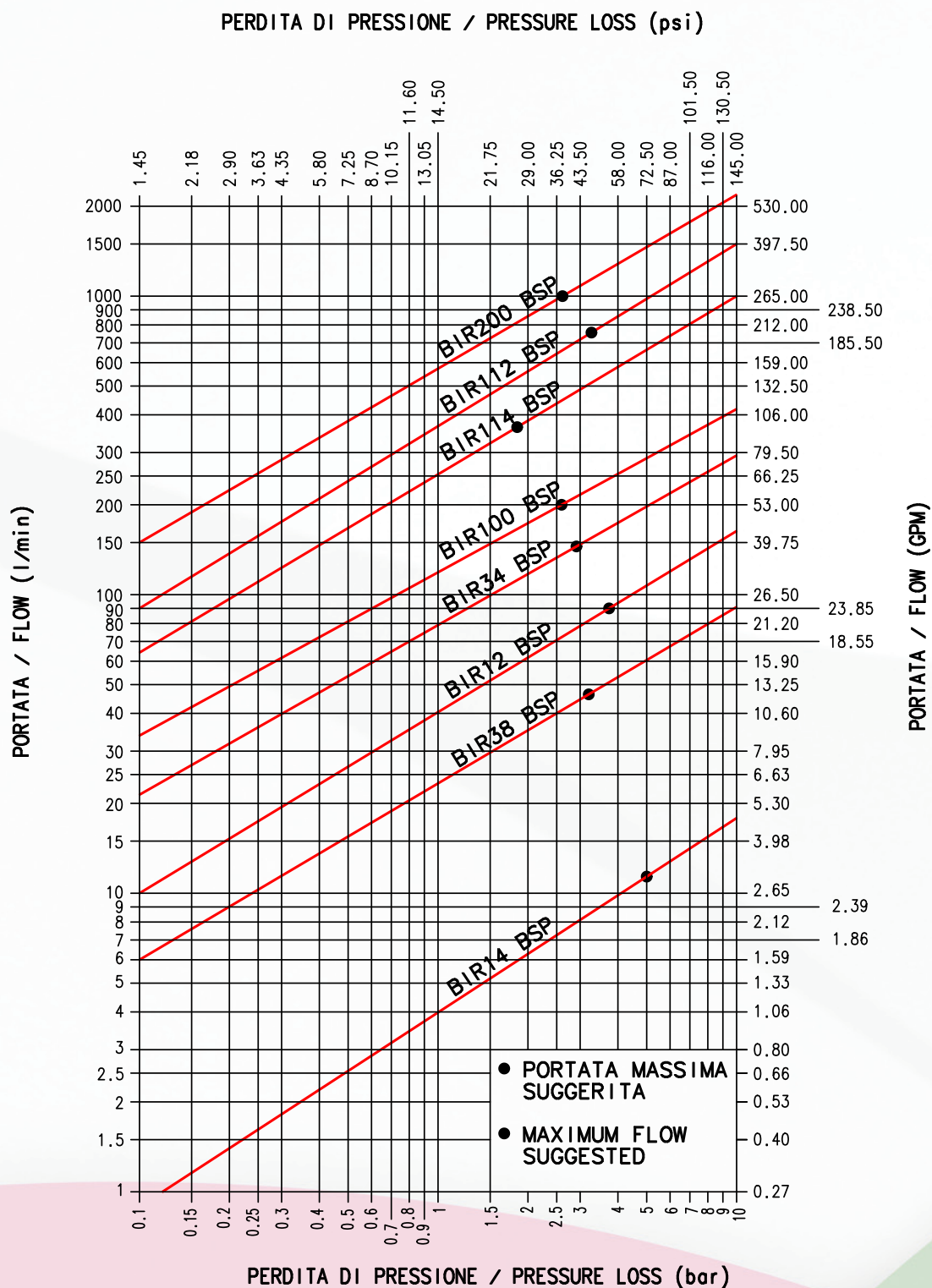
Description	Max. operating pressure						Burst pressure					
	Coupled		Male		Female		Coupled		Male		Female	
	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
BIR14	35	5075	35	5075	35	5075	126	18270	126	18270	126	18270
BIR38	30	4350	30	4350	30	4350	100	14500	100	14500	100	14500
BIR12	25	3625	25	3625	25	3625	80	11600	80	11600	100	14500
BIR34	25	3625	25	3625	25	3625	100	14500	100	14500	100	14500
BIR100	23	3335	23	3335	23	3335	80	11600	80	11600	80	11600
BIR114	23	3335	23	3335	23	3335	80	11600	80	11600	80	11600
BIR112	18	2610	18	2610	13	1885	64	9280	64	9280	64	9280
BIR200	13	1885	13	1885	13	1885	40	5800	40	5800	40	5800

\* Spillage is an indicative value of the fluid loss per couple-uncouple cycle.

- Temperature range:
  - Standard seals NBR (Nitrile): from -20 °C to +100 °C ( from -4 °F to +212 °F).
  - VITON seals: from -15°C to +180°C ( from +5 °F to +356 °F).

## PRESSURE DROP

TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2  
TESTS IN ACCORDANCE WITH ISO 7241-2

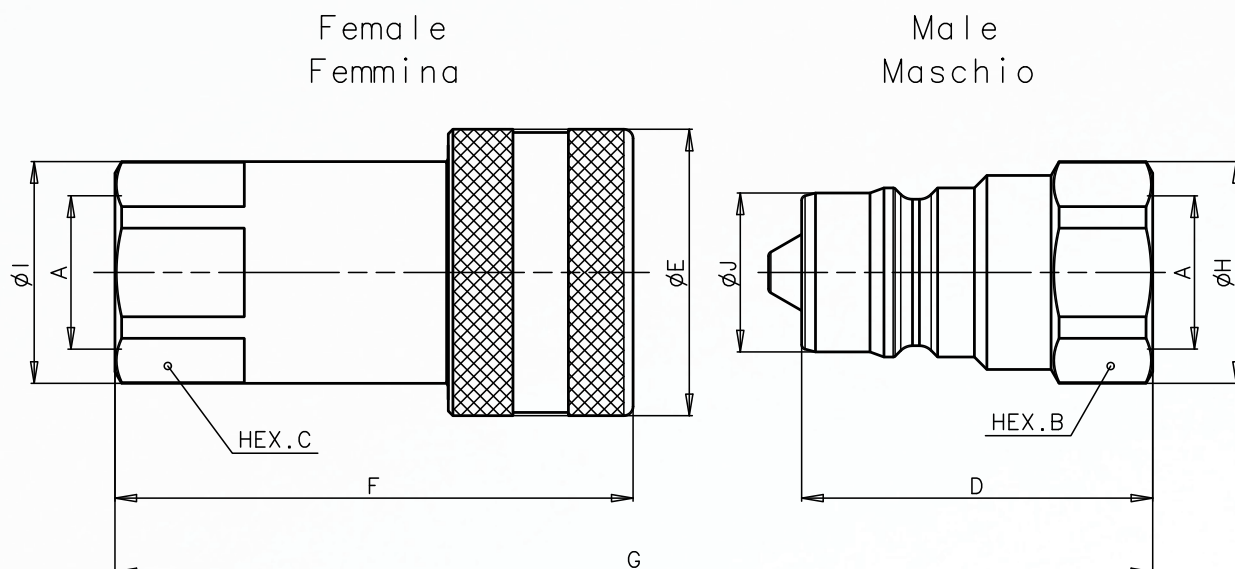


FLUIDO: OLIO ISO VG32  
TEMPERATURA: 40°C  
VISCOSITA': 28.8-35.2 mm<sup>2</sup>/s

FLUID: OIL ISO VG32  
TEMPERATURE: 40°C  
VISCOSITY: 28.8-35.2 mm<sup>2</sup>/s



## OVERALL DIMENSIONS



## FEMALE BSPP THREAD (DIN 3852)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
BIR14 BSP	1/4	mm Inch	19 0,75	19 0,75	32 1,26	26 1,02	47,1 1,85	64,8 2,55	20,8 0,82	22 0,87	11,8 0,46	Kg lb	0,031 0,07	0,095 0,21
BIR38 BSP	3/8	mm Inch	22 0,87	22 0,87	38 1,50	31 1,22	56,1 2,21	76,8 3,02	24 0,94	24 0,94	17,3 0,68	Kg lb	0,052 0,11	0,144 0,32
BIR12 BSP	1/2	mm Inch	27 1,06	27 1,06	44,5 1,75	38 1,50	63,3 2,49	86,3 3,40	29 1,14	30 1,18	20,5 0,81	Kg lb	0,084 0,19	0,245 0,54
BIR34 BSP	3/4	mm Inch	36 1,42	38 1,50	55 2,17	48 1,89	82,2 3,24	111,1 4,37	38,5 1,52	44 1,73	29,1 1,15	Kg lb	0,205 0,45	0,494 1,09
BIR100 BSP	1	mm Inch	41 1,61	45 1,77	63,1 2,48	54 2,13	97,1 3,82	127,3 5,01	44,8 1,76	52 2,05	34,3 1,35	Kg lb	0,275 0,61	0,760 1,68
BIR114 BSP	1-1/4	mm Inch	55 2,17	50 1,97	75 2,95	65 2,56	117,2 4,61	151,2 5,95	60 2,36	55,5 2,19	45 1,77	Kg lb	0,593 1,31	1,252 2,76
BIR112 BSP	1-1/2	mm Inch	60 2,36	60 2,36	85 3,35	80 3,15	135,3 5,33	171,3 6,74	65,5 2,58	55 2,17	55 2,17	Kg lb	0,880 1,94	2,130 4,70
BIR200 BSP	2	mm Inch	75 2,95	75 2,95	100 3,94	100 3,94	160,2 6,31	201,2 7,92	82,5 3,25	83,7 3,30	65 2,56	Kg lb	1,438 3,17	4,130 9,10

## FEMALE NPT THREAD (ANSI B.1.20.3)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
BIR14 NPT	1/4	mm Inch	19 0,75	19 0,75	32 1,26	26 1,02	47,1 1,85	64,8 2,55	20,8 0,82	22 0,87	11,8 0,46	Kg lb	0,033 0,07	0,094 0,21
BIR38 NPT	3/8	mm Inch	22 0,87	22 0,87	38 1,50	31 1,22	56,1 2,21	76,8 3,02	24 0,94	24 0,94	17,3 0,68	Kg lb	0,053 0,12	0,145 0,32
BIR12 NPT	1/2	mm Inch	27 1,06	27 1,06	44,5 1,75	38 1,50	63,3 2,49	86,3 3,40	29 1,14	30 1,18	20,5 0,81	Kg lb	0,084 0,19	0,245 0,54
BIR34 NPT	3/4	mm Inch	36 1,42	38 1,50	55 2,17	48 1,89	82,2 3,24	111,1 4,37	38,5 1,52	44 1,73	29,1 1,15	Kg lb	0,210 0,46	0,502 1,11
BIR100 NPT	1	mm Inch	41 1,61	45 1,77	63,1 2,48	54 2,13	97,1 3,82	127,3 5,01	44,8 1,76	52 2,05	34,3 1,35	Kg lb	0,284 0,63	0,772 1,70
BIR114 NPT	1-1/4	mm Inch	55 2,17	50 1,97	75 2,95	65 2,56	117,2 4,61	151,2 5,95	60 2,36	55,5 2,19	45 1,77	Kg lb	0,615 1,36	1,244 2,74
BIR112 NPT	1-1/2	mm Inch	60 2,36	60 2,36	85 3,35	80 3,15	135,3 5,33	171,3 6,74	65,5 2,58	55 2,17	55 2,17	Kg lb	0,878 1,94	2,130 4,70
BIR200 NPT	2	mm Inch	75 2,95	75 2,95	100 3,94	100 3,94	160,2 6,31	201,2 7,92	82,5 3,25	83,7 3,30	65 2,56	Kg lb	1,440 3,17	4,130 9,10



## Series: I

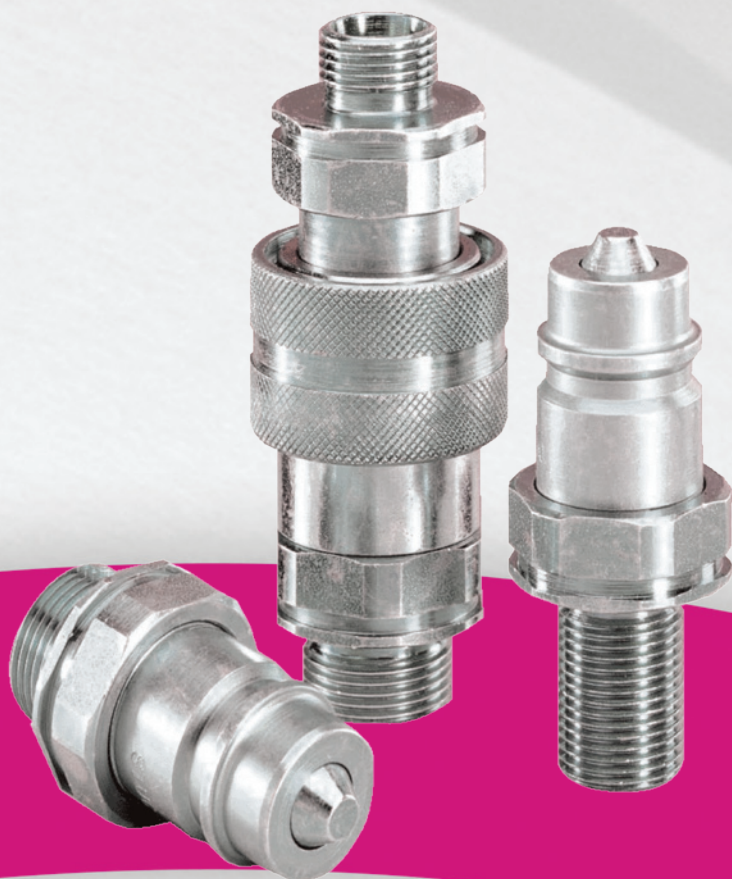
**INTERCHANGE:** ISO 7241-1 series "A"

### MAIN APPLICATIONS

- Agricultural equipment
- Industrial equipment

"I" is a poppet valve quick coupling series, with modular structure, manufactured in carbon steel with zinc plated surface treatment.

The modular structure allows the flexibility to offer several types of port configurations to satisfy diverse applications while maintaining a compact dimension. It is available in size 1/2 for the most popular applications needing the interchangeability with ISO 7241-1 "A".



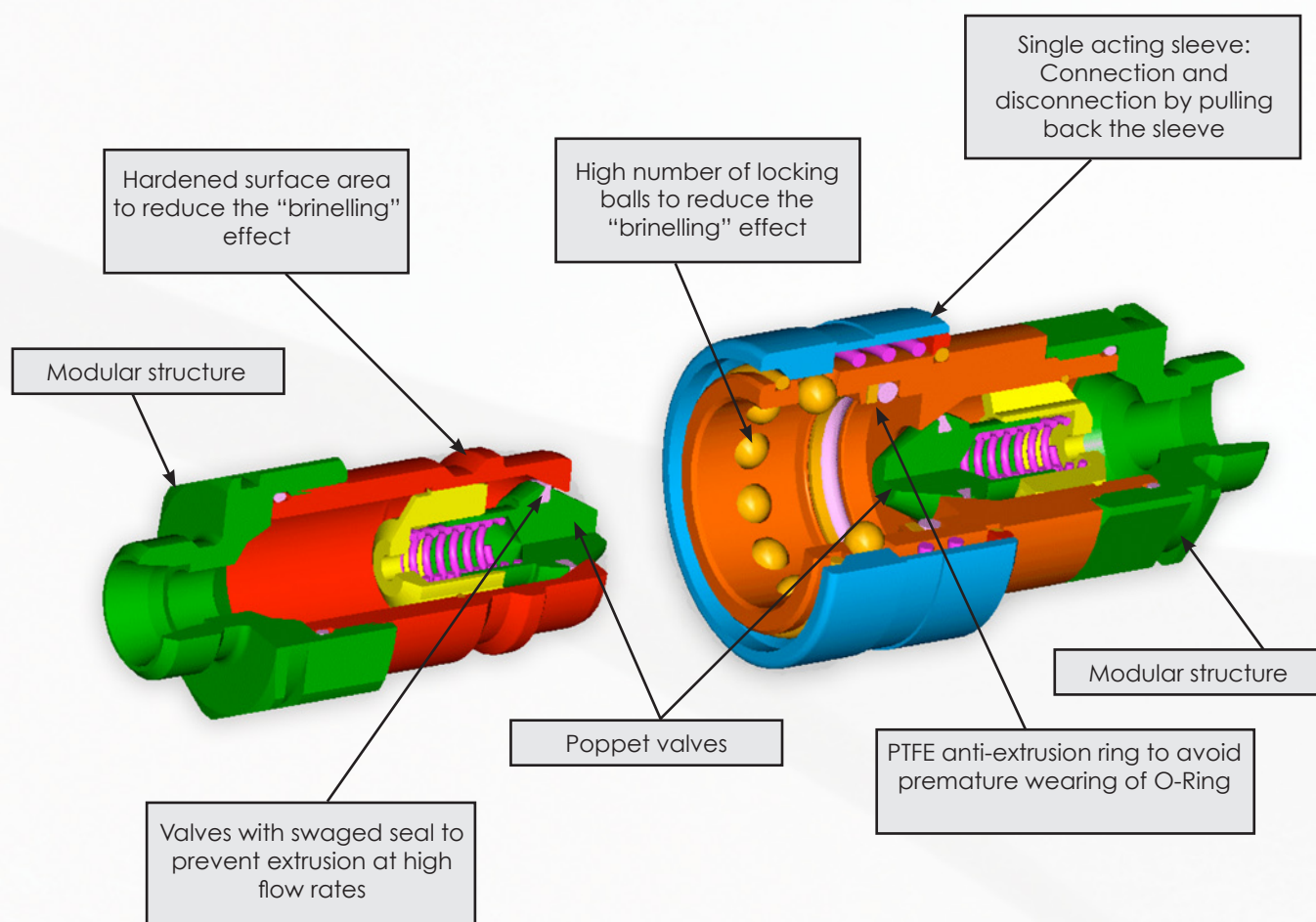
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## TECHNICAL FEATURES AND OPTIONS

- Interchangeability: ISO 7241-1 series "A"
- Valve system: Poppet valve
- Mechanical connection: Locking balls
- Connection system: Pulling back the sleeve and pushing one half towards the other
- Disconnection system: Pulling back the sleeve
- Connection with residual pressure: Not allowed
- Disconnection with residual pressure: Not allowed
- Threads available: Metrics DIN
- On request: Free flow version (no valving)
- Construction material: Carbon steel
- Surface treatment: CrIII zinc plated
- Springs: C72 steel
- Balls: Hard steel 100 C6
- Seals: standard in NBR (Nitrile)
- Seals on request: VITON
- Anti-extrusion rings: PTFE



## BENEFITS

- The poppet valve with elastomer seal provides maximum sealing of the couplings when disconnected.
- Shape of internal parts is designed to reduce turbulence and pressure drop.
- The modular design allows flexibility with the range of port configurations.
- Compact slim design.
- Simple to use.

## HOW TO USE

- Before connecting clean the mating parts of the couplings to avoid contamination in the circuit.
- To couple pull back the sleeve of the female coupling, align the female with the male coupling and push one into the other until both halves are fully connected and release the sleeve.
- To uncouple pull back the sleeve of the female coupling, pull out the mating half.

## WARNING!

- Do not couple-uncouple with flow and/or pressure in the circuit.
- Use protection whenever connecting or disconnecting with high temperature (max. allowed 80°C, 176 °F).
- When the couplings are disconnected, it is suggested to use the protection caps (BIR12).

## PERFORMANCE

Description	Size	ISO Size	Rated flow		Max. flow suggested		Connect force		Disconnect force		Spillage *
	Inch	mm	l/min	GPM	l/min	GPM	N	lbf	N	lbf	ml
I12	1/2	12,5	45	11,93	90	23,85	70	15,75	55	12,38	2,10

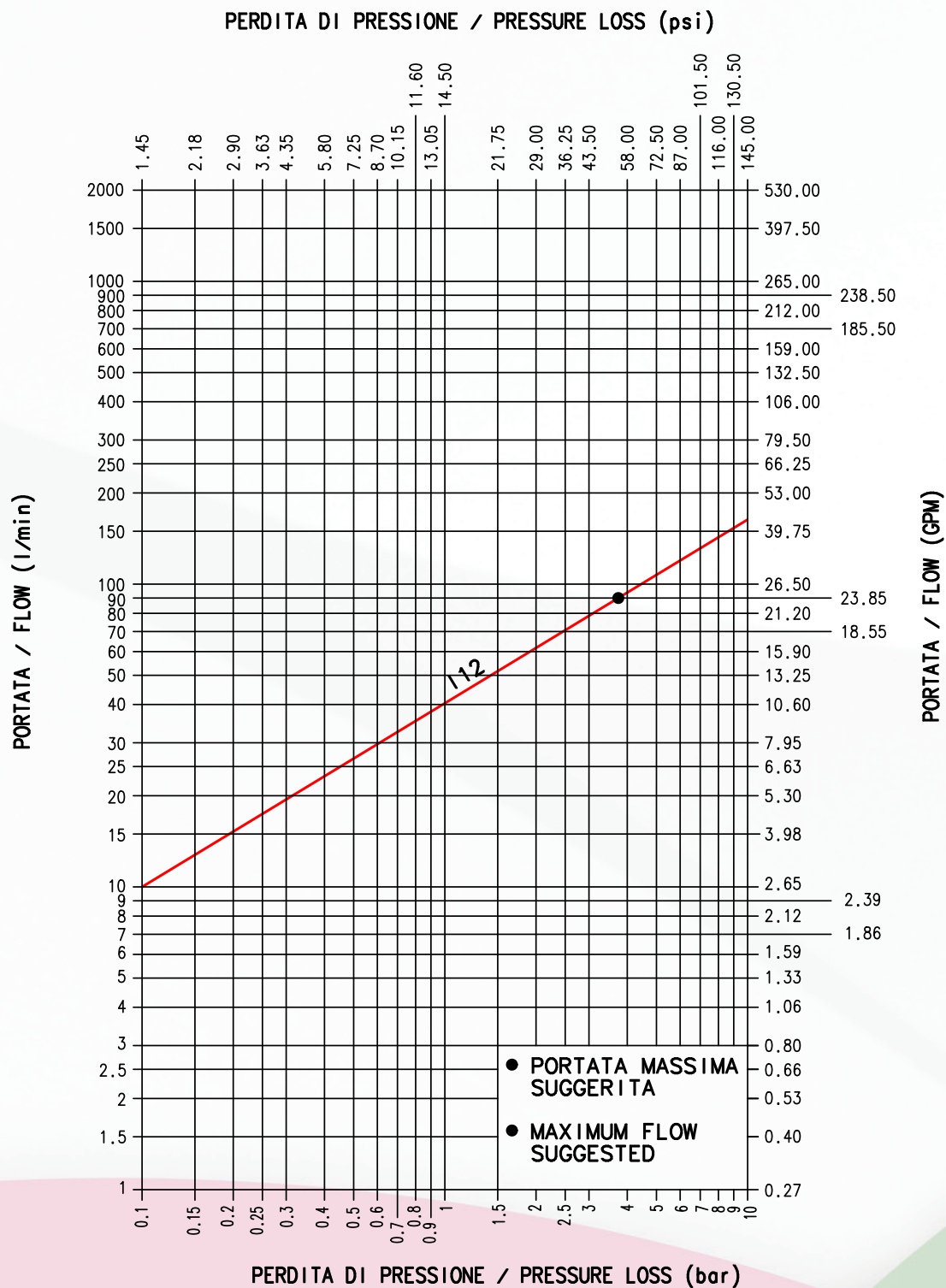
Description	Max. operating pressure						Burst pressure					
	Coupled		Male		Female		Coupled		Male		Female	
	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
I12	25	3625	25	3625	25	3625	80	11600	80	11600	100	14500

\* Spillage is an indicative value of the fluid loss per couple-uncouple cycle.

- Temperature range:
  - Standard seals NBR (Nitrile): from -20 °C to +100 °C ( from -4 °F to +212 °F).
  - VITON seals: from -15°C to +180°C ( from +5 °F to +356 °F).

## PRESSURE DROP

TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2  
TESTS IN ACCORDANCE WITH ISO 7241-2

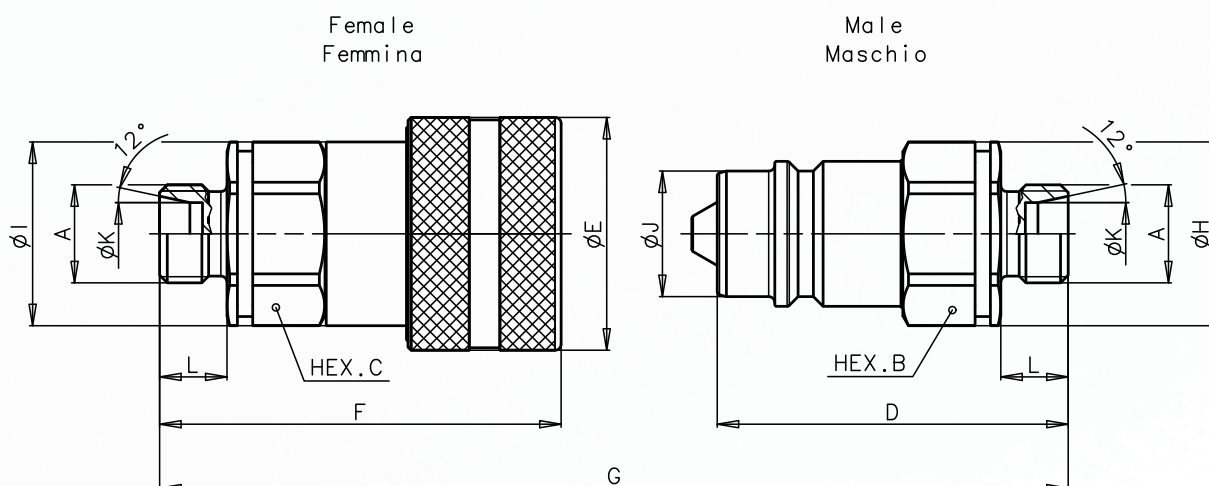


FLUIDO: OLIO ISO VG32  
TEMPERATURA: 40°C  
VISCOSITA': 28.8-35.2 mm<sup>2</sup>/s

FLUID: OIL ISO VG32  
TEMPERATURE: 40°C  
VISCOSITY: 28.8-35.2 mm<sup>2</sup>/s

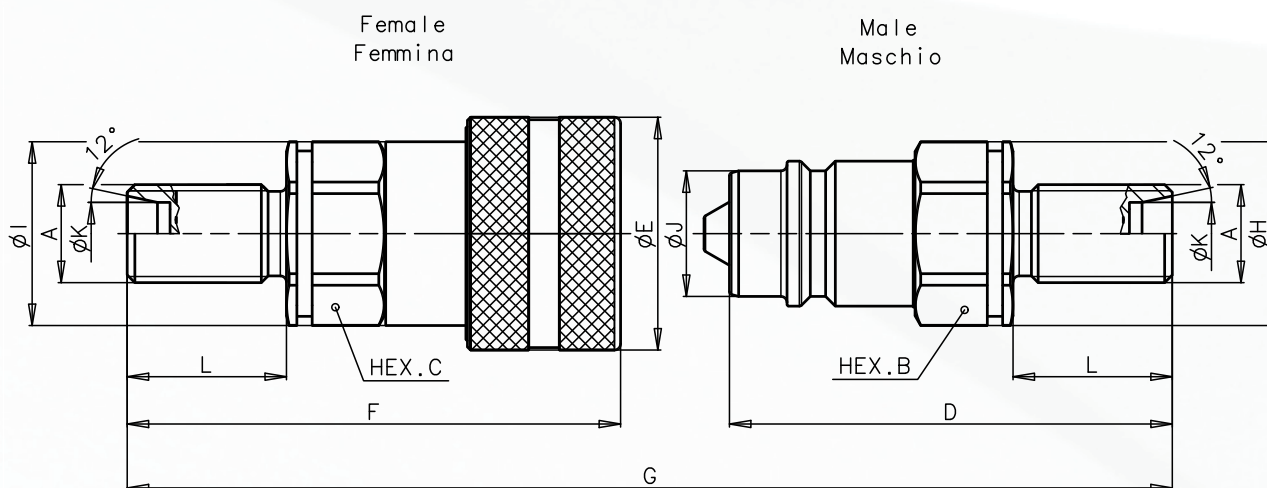


## OVERALL DIMENSIONS



## FILETTATURA MASCHIO METRICA CONO 24° - DIN 2353

Description	A	Unit	B	C	D	E	F	G	H	I	J	K	L	Unit	Weight	
															Male	Female
I12 L12	M18x1,5	mm	27	27	57,3	38	65,6	101,4	30	30	20,5	12,2	11	Kg	0,115	0,259
		Inch	1,06	1,06	2,26	1,50	2,58	3,99	1,18	1,18	0,81	0,48	0,43	lb	0,25	0,57
I12 L15	M22x1,5	mm	27	27	54,5	38	62,8	95,8	30	30	20,5	15,2	12	Kg	0,114	0,255
		Inch	1,06	1,06	2,15	1,50	2,47	3,77	1,18	1,18	0,81	0,60	0,47	lb	0,25	0,56



## FILETTATURA MASCHIO METRICA CONO 24° - DIN 2353

Description	A	Unit	B	C	D	E	F	G	H	I	J	K	L	Unit	Weight	
															Male	Female
I12 L12	M18x1,5	mm	27	27	72,3	38	80,4	131,2	30	30	20,5	12,2	26	Kg	0,123	0,265
SCHOTT		Inch	1,06	1,06	2,85	1,50	3,17	5,17	1,18	1,18	0,81	0,48	1,02	lb	0,27	0,58
I12 L15	M22x1,5	mm	27	27	69,5	38	77,8	125,8	30	30	20,5	15,2	27	Kg	0,120	0,260
SCHOTT		Inch	1,06	1,06	2,74	1,50	3,06	4,95	1,18	1,18	0,81	0,60	1,06	lb	0,26	0,57





## Series: **IRB**

**INTERCHANGE:** ISO 7241-1 series "B"

### MAIN APPLICATIONS

- Industrial equipment

"IRB" is a poppet valve quick couplings series interchangeable with international standard ISO 7241-1 "B", manufactured in carbon steel with zinc plated surface treatment. Based on the worldwide interchangeability, "IRB" is used in a variety of industrial hydraulic applications.

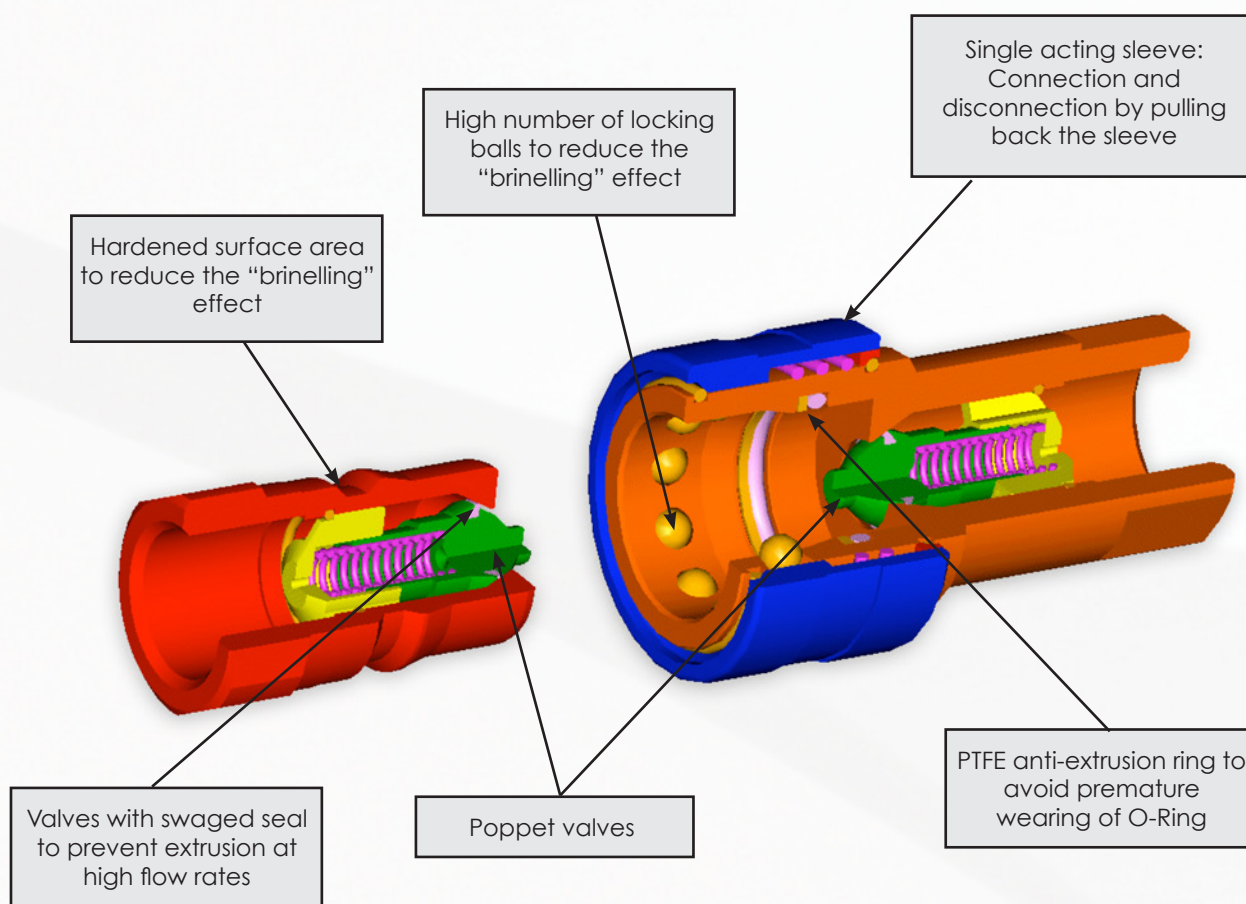


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## TECHNICAL FEATURES AND OPTIONS

- Interchangeability: ISO 7241-1 series "B"
- Valve system: Poppet valve
- Mechanical connection: Locking balls
- Connection system: Pulling back the sleeve and pushing one half towards the other
- Disconnection system: Pulling back the sleeve
- Connection with residual pressure: Not allowed
- Disconnection with residual pressure: Not allowed
- Threads available: BSP, NPT
- On request: Free flow version (no valving)
- Construction material: Carbon steel
- Surface treatment: CrIII zinc plated
- Springs: C72 steel
- Balls: Hard steel 100 C6
- Seals: standard in NBR (Nitrile)
- Seals on request: VITON
- Anti-extrusion rings: PTFE



## BENEFITS

- The poppet valve with elastomer seal provides maximum sealing of the couplings when disconnected.
- Shape of internal parts is designed to reduce turbulence and pressure drop.
- Compact slim design.
- Simple to use.



## HOW TO USE

- Before connecting clean the mating parts of the couplings to avoid contamination in the circuit.
- To couple pull back the sleeve of the female coupling, align the female with the male coupling and push one into the other until both halves are fully connected and release the sleeve.
- To uncouple pull back the sleeve of the female coupling, pull out the mating half.

## WARNING!

- Do not couple-uncouple with flow and/or pressure in the circuit.
- Use protection whenever connecting or disconnecting with high temperature (max. allowed 80°C, 176 °F).

## PERFORMANCE

Description	Size	ISO Size	Rated flow		Max. flow suggested		Connect force		Disconnect force		Spillage *
			l/min	GPM	l/min	GPM	N	lbf	N	lbf	
IRB18	1/8	5,0	3	0,80	6	1,59	75	16,88	35	7,88	0,18
IRB14	1/4	6,3	12	3,18	24	6,36	50	11,25	35	7,88	0,33
IRB38	3/8	10,0	23	6,10	46	12,19	80	18,00	45	10,13	2,20
IRB12	1/2	12,5	45	11,93	90	23,85	105	23,63	35	7,88	3,00
IRB34	3/4	20,0	74	19,61	148	39,22	125	28,13	40	9,00	9,40
IRB100	1	25,0	100	26,50	200	53,00	130	29,25	45	10,13	14,00

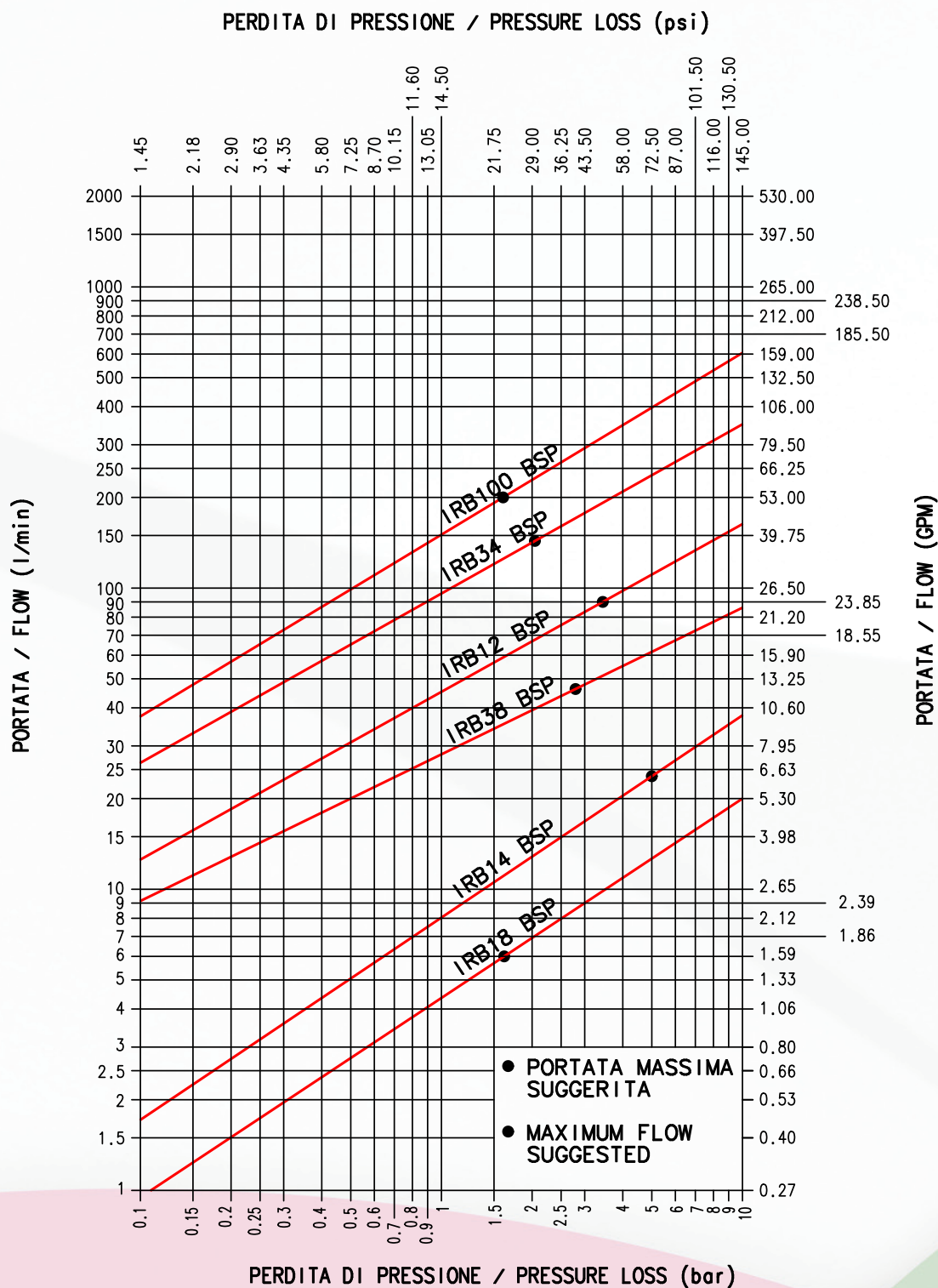
Description	Max. operating pressure						Burst pressure					
	Coupled		Male		Female		Coupled		Male		Female	
	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
IRB18	35	5075	35	5075	35	5075	120	17400	120	17400	120	17400
IRB14	35	5075	35	5075	35	5075	100	14500	100	14500	100	14500
IRB38	30	4350	30	4350	30	4350	100	14500	100	14500	100	14500
IRB12	28	4060	28	4060	28	4060	100	14500	100	14500	100	14500
IRB34	23	3335	23	3335	23	3335	100	14500	100	14500	100	14500
IRB100	18	2610	18	2610	18	2610	80	11600	80	11600	80	11600

\* Spillage is an indicative value of the fluid loss per couple-uncouple cycle.

- Temperature range:
  - Standard seals NBR (Nitrile): from -20 °C to +100 °C ( from -4 °F to +212 °F).
  - VITON seals: from -15°C to +180°C ( from +5 °F to +356 °F).

## PRESSURE DROP

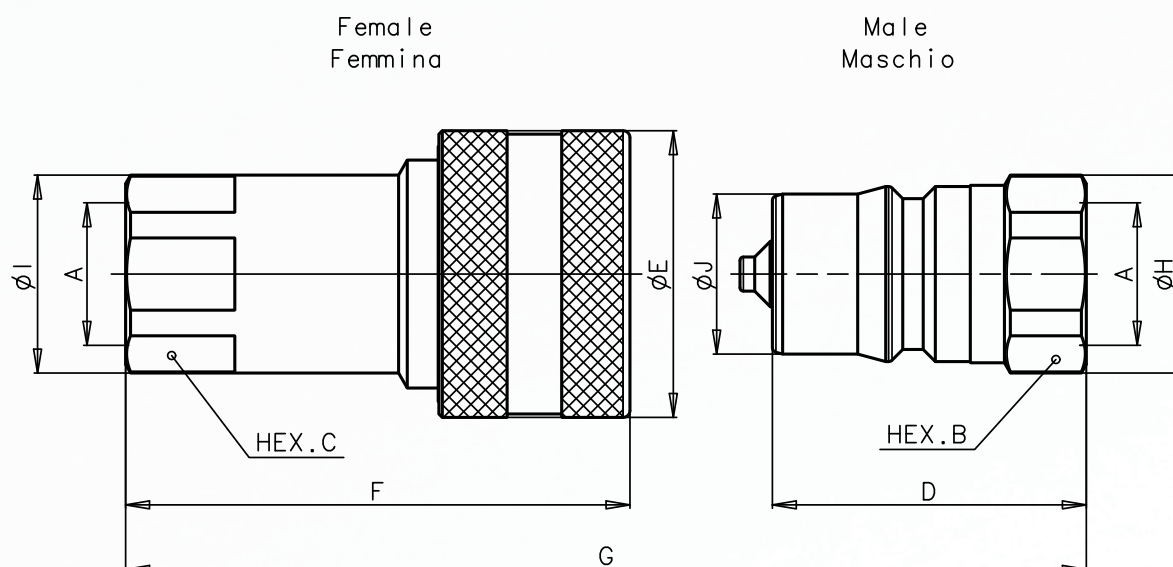
TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2  
TESTS IN ACCORDANCE WITH ISO 7241-2



FLUIDO: OLIO ISO VG32  
TEMPERATURA: 40°C  
VISCOSITA': 28.8-35.2 mm<sup>2</sup>/s

FLUID: OIL ISO VG32  
TEMPERATURE: 40°C  
VISCOSITY: 28.8-35.2 mm<sup>2</sup>/s

## OVERALL DIMENSIONS



## FEMALE BSP THREAD (DIN 3852)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IRB18 BSP	1/8	mm Inch	14 0,55	14 0,55	30 1,18	23 0,91	48,8 1,92	60,5 2,38	15,8 0,62	15,8 0,62	10,8 0,43	Kg lb	0,018 0,04	0,068 0,15
IRB14 BSP	1/4	mm Inch	19 0,75	19 0,75	35 1,38	27 1,06	57 2,24	70,7 2,78	20,8 0,82	21,2 0,83	14,2 0,56	Kg lb	0,035 0,08	0,120 0,26
IRB38 BSP	3/8	mm Inch	24 0,94	24 0,94	41 1,61	34 1,34	66 2,60	82,7 3,26	26 1,02	27 1,06	19,1 0,75	Kg lb	0,068 0,15	0,220 0,49
IRB12 BSP	1/2	mm Inch	27 1,06	27 1,06	46 1,81	42 1,65	73,9 2,91	92,6 3,65	29 1,14	29 1,14	23,5 0,93	Kg lb	0,102 0,22	0,323 0,71
IRB34 BSP	3/4	mm Inch	36 1,42	36 1,42	55 2,17	50 1,97	90,1 3,55	111,1 4,37	38,5 1,52	38,5 1,52	31,4 1,24	Kg lb	0,203 0,45	0,562 1,24
IRB100 BSP	1	mm Inch	41 1,61	41 1,61	66 2,60	60 2,36	106,2 4,18	133,2 5,24	44,8 1,76	44,8 1,76	37,7 1,48	Kg lb	0,328 0,72	0,863 1,90

## FEMALE NPT THREAD (ANSI B.1.20.3)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IRB18 NPT	1/8	mm Inch	14 0,55	14 0,55	30 1,18	23 0,91	48,8 1,92	60,5 2,38	15,8 0,62	15,8 0,62	10,8 0,43	Kg lb	0,018 0,04	0,068 0,15
IRB14 NPT	1/4	mm Inch	19 0,75	19 0,75	35 1,38	27 1,06	57 2,24	70,7 2,78	20,8 0,82	21,2 0,83	14,2 0,56	Kg lb	0,036 0,08	0,120 0,26
IRB38 NPT	3/8	mm Inch	24 0,94	24 0,94	41 1,61	34 1,34	66 2,60	82,7 3,26	26 1,02	27 1,06	19,1 0,75	Kg lb	0,068 0,15	0,220 0,49
IRB12 NPT	1/2	mm Inch	27 1,06	27 1,06	46 1,81	42 1,65	73,9 2,91	92,6 3,65	29 1,14	29 1,14	23,5 0,93	Kg lb	0,105 0,23	0,322 0,71
IRB34 NPT	3/4	mm Inch	36 1,42	36 1,42	55 2,17	50 1,97	90,1 3,55	111,1 4,37	38,5 1,52	38,5 1,52	31,4 1,24	Kg lb	0,207 0,46	0,564 1,24
IRB100 NPT	1	mm Inch	41 1,61	41 1,61	66 2,60	60 2,36	106,2 4,18	133,2 5,24	44,8 1,76	44,8 1,76	37,7 1,48	Kg lb	0,342 0,75	0,880 1,94





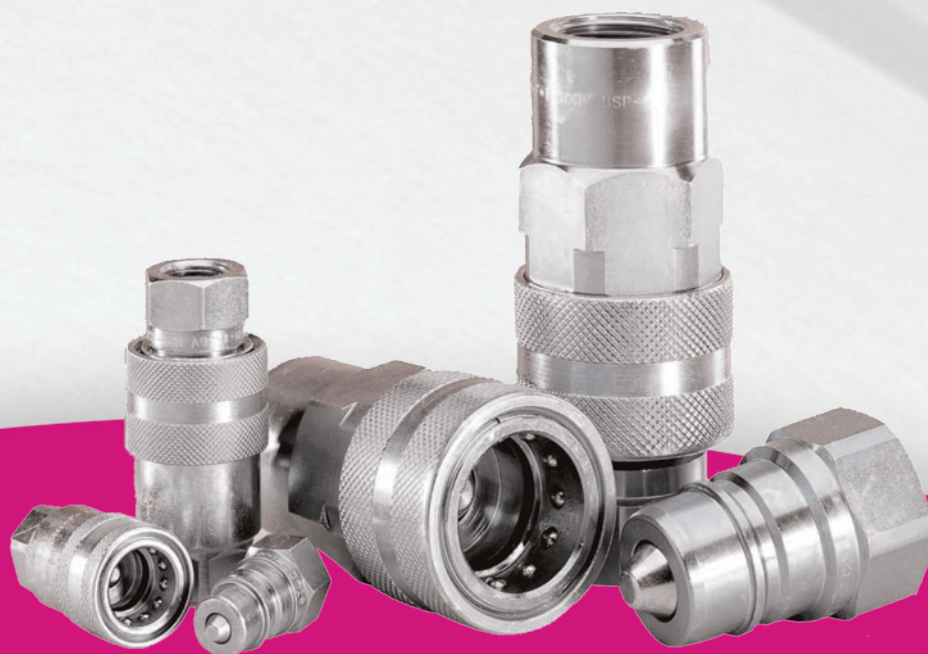
## Series: **IR-V**

**INTERCHANGE:** With similar couplings  
ISO 7241-1 series "A" (size 1/2 only)

### MAIN APPLICATIONS

- Agricultural equipment
- Industrial equipment

"IR-V" is a poppet valve quick couplings series, interchangeable with "IR" ball valve series manufactured in carbon steel with zinc plated surface treatment. The design is based on the better sealing of the poppet valve compared to the ball valve. The size 1/2 is a part of BIR series and it is interchangeable in according with international standard ISO 7241-1 series "A".

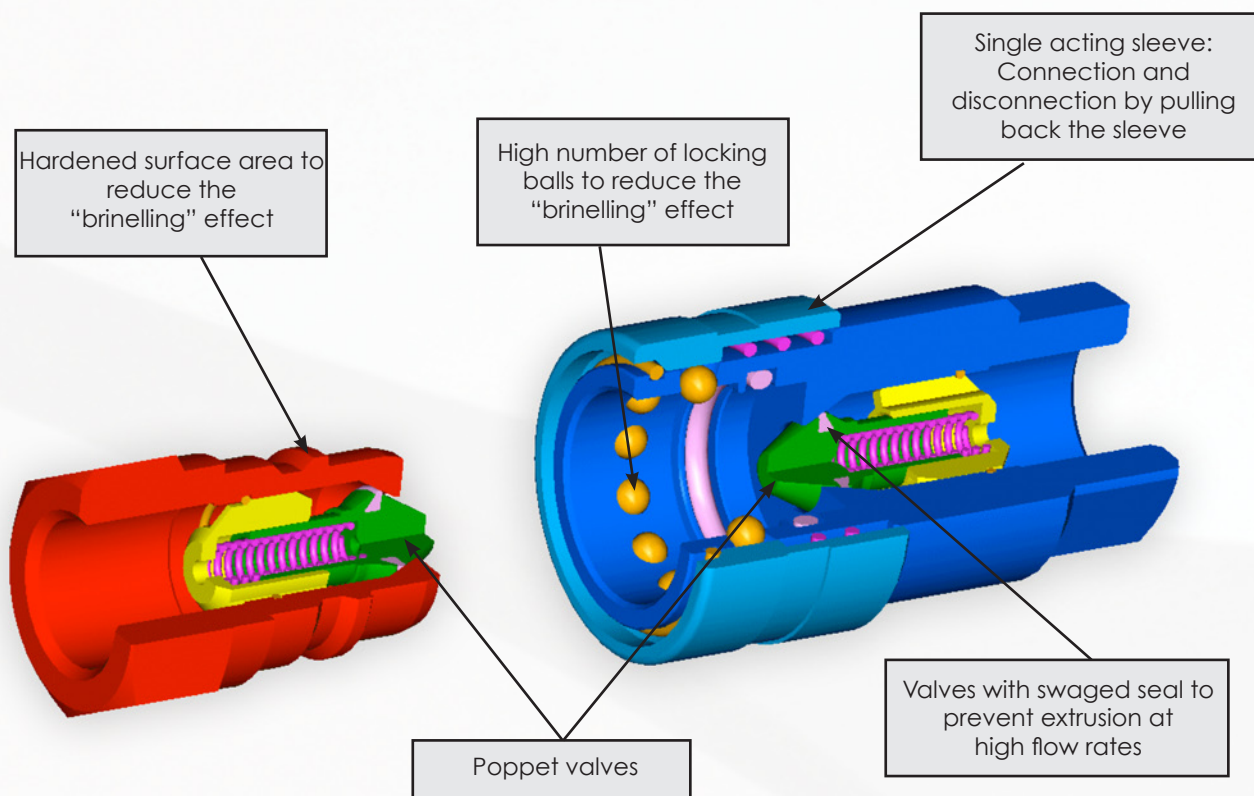


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## TECHNICAL FEATURES AND OPTIONS

- Interchangeability: ISO 7241-1 series "A" (size 1/2 only)
- Valve system: Poppet valve
- Mechanical connection: Locking balls
- Connection system: Pulling back the sleeve and pushing one half towards the other
- Disconnection system: Pulling back the sleeve
- Connection with residual pressure: Not allowed
- Disconnection with residual pressure: Not allowed
- Threads available: BSP, NPT
- On request: Free flow version (no valving)
- Construction material: Carbon steel
- Surface treatment: CrIII zinc plated
- Springs: C72 steel
- Balls: Hard steel 100 C6
- Seals: standard in NBR (Nitrile)



## BENEFITS

- The poppet valve with elastomer seal provides maximum sealing of the couplings when disconnected.
- Shape of internal parts is designed to reduce turbulence and pressure drop.
- Compact slim design.
- Simple to use.

## HOW TO USE

- Before connecting clean the mating parts of the couplings to avoid contamination in the circuit.
- To couple pull back the sleeve of the female coupling, align the female with the male coupling and push one into the other until both halves are fully connected and release the sleeve.
- To uncouple pull back the sleeve of the female coupling, pull out the mating half.

## WARNING!

- Do not couple-uncouple with flow and/or pressure in the circuit.
- Use protection whenever connecting or disconnecting with high temperature (max. allowed 80°C, 176 °F).
- When the couplings are disconnected, it is suggested to use the protection caps.

## PERFORMANCE

Description	Size	ISO Size	Rated flow		Max. flow suggested		Connect force		Disconnect force		Spillage *
			l/min	GPM	l/min	GPM	N	lbf	N	lbf	
IR14V	1/4	-	12	3,18	24	6,36	80	18,00	40	9,00	0,33
IR38V	3/8	-	23	6,10	46	12,19	120	27,00	35	7,88	1,30
BIR12	1/2	12,5	45	11,93	90	23,85	70	15,75	55	12,38	2,10
IR34V	3/4	-	74	19,61	148	39,22	175	39,38	45	10,13	4,20
IR100V	1	-	100	26,50	200	53,00	210	47,25	65	14,63	5,50

Description	Max. operating pressure						Burst pressure					
	Coupled		Male		Female		Coupled		Male		Female	
	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
IR14V	30	4350	30	4350	30	4350	100	14500	100	14500	100	14500
IR38V	30	4350	30	4350	30	4350	100	14500	100	14500	100	14500
BIR12	25	3625	25	3625	25	3625	80	11600	80	11600	100	14500
IR34V	25	3625	25	3625	25	3625	100	14500	90	13050	100	14500
IR100V	20	2900	20	2900	20	2900	80	11600	80	11600	80	11600

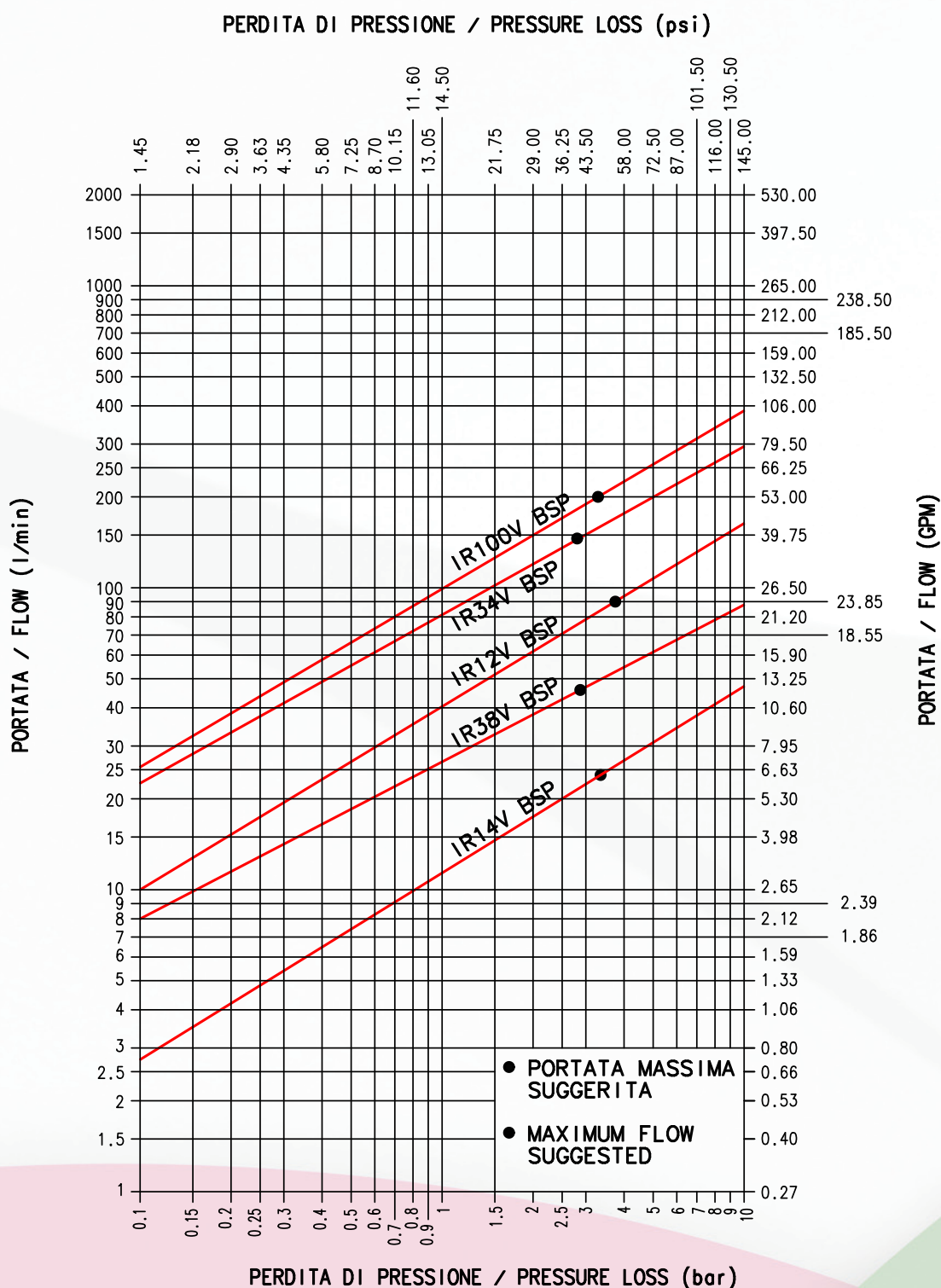
\* Spillage is an indicative value of the fluid loss per couple-uncouple cycle.

- Temperature range:
- Standard seals NBR (Nitrile): from -20 °C to +100 °C ( from -4 °F to +212 °F).



## PRESSURE DROP

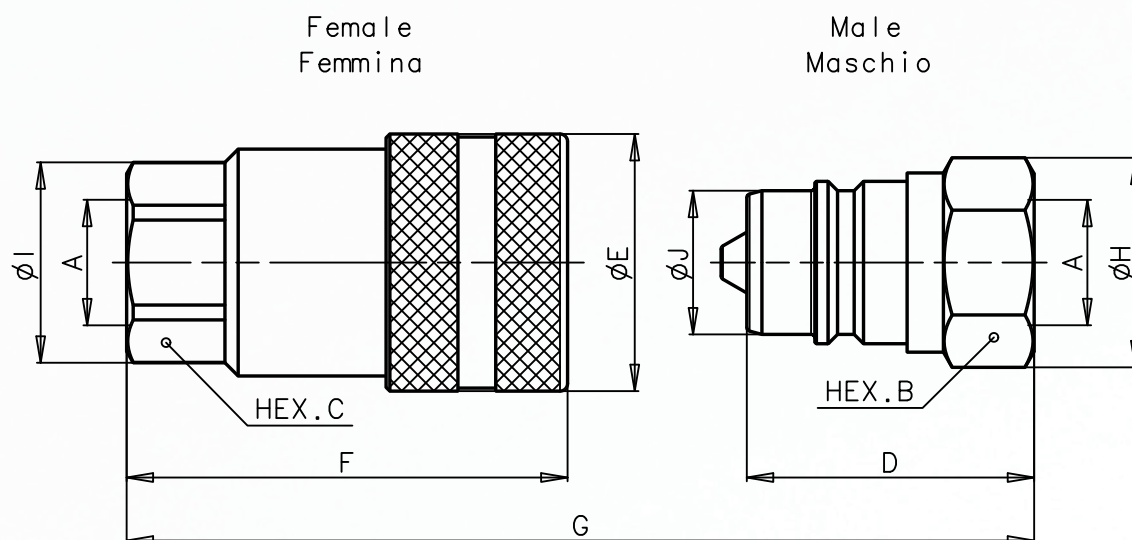
TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2  
TESTS IN ACCORDANCE WITH ISO 7241-2



FLUIDO: OLIO ISO VG32  
TEMPERATURA: 40°C  
VISCOSITA': 28.8-35.2 mm<sup>2</sup>/s

FLUID: OIL ISO VG32  
TEMPERATURE: 40°C  
VISCOSITY: 28.8-35.2 mm<sup>2</sup>/s

## OVERALL DIMENSIONS



### FEMALE BSPB THREAD (DIN 3852)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IR14V BSP	1/4	mm Inch	19 0,75	19 0,75	32,5 1,28	27 1,06	50,4 1,98	65,9 2,59	22 0,87	21 0,83	14,2 0,56	Kg lb	0,038 0,08	0,115 0,25
IR38V BSP	3/8	mm Inch	24 0,94	24 0,94	38 1,50	34 1,34	58,3 2,30	76,3 3,00	27,7 1,09	26,5 1,04	19 0,75	Kg lb	0,073 0,16	0,215 0,47
BIR12 BSP	1/2	mm Inch	27 1,06	27 1,06	44,5 1,75	38 1,50	63,3 2,49	86,3 3,40	29 1,14	30 1,18	20,5 0,81	Kg lb	0,084 0,19	0,245 0,54
IR34V BSP	3/4	mm Inch	36 1,42	38 1,50	59 2,32	48 1,89	90,3 3,56	118,3 4,66	38,5 1,52	43 1,69	26,9 1,06	Kg lb	0,188 0,41	0,679 1,50
IR100V BSP	1	mm Inch	41 1,61	45 1,77	64,1 2,52	54 2,13	97,6 3,84	128,8 5,07	44,8 1,76	52 2,05	31,4 1,24	Kg lb	0,262 0,58	0,828 1,83

### FEMALE NPT THREAD (ANSI B.1.20.3)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IR14V NPT	1/4	mm Inch	19 0,75	19 0,75	32,5 1,28	27 1,06	50,4 1,98	65,9 2,59	22 0,87	21 0,83	14,2 0,56	Kg lb	0,040 0,09	0,125 0,28
IR38V NPT	3/8	mm Inch	24 0,94	24 0,94	38 1,50	34 1,34	58,3 2,30	76,3 3,00	27,7 1,09	26,5 1,04	19 0,75	Kg lb	0,080 0,18	0,222 0,49
BIR12 NPT	1/2	mm Inch	27 1,06	27 1,06	44,5 1,75	38 1,50	63,3 2,49	86,3 3,40	29 1,14	30 1,18	20,5 0,81	Kg lb	0,084 0,19	0,245 0,54
IR34V NPT	3/4	mm Inch	36 1,42	38 1,50	59 2,32	48 1,89	90,3 3,56	118,3 4,66	38,5 1,52	43 1,69	26,9 1,06	Kg lb	0,187 0,41	0,663 1,46
IR100V NPT	1	mm Inch	41 1,61	45 1,77	64,1 2,52	54 2,13	97,6 3,84	128,8 5,07	44,8 1,76	52 2,05	31,4 1,24	Kg lb	0,276 0,61	0,860 1,90



## Series: IR

**INTERCHANGE:** With similar couplings  
ISO 7241-1 series "A" (size 1/2 only)

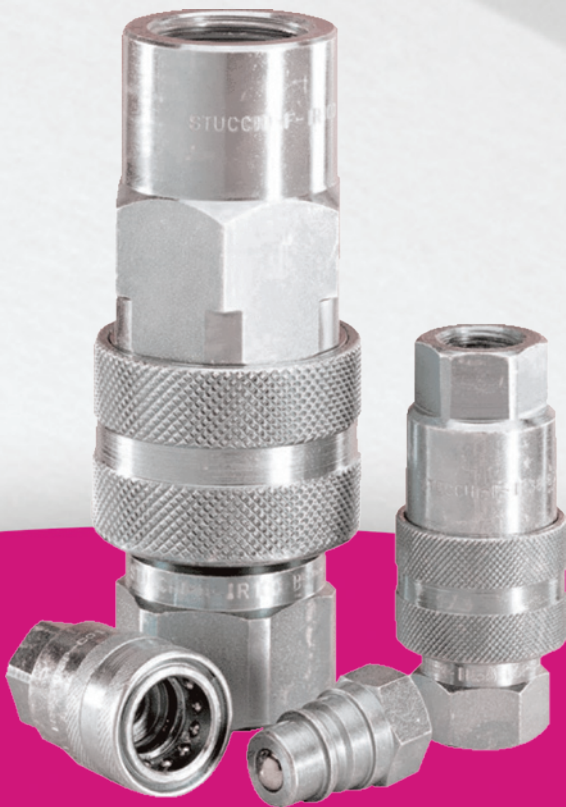
### MAIN APPLICATIONS

- Agricultural equipment
- Industrial equipment

"IR" is a ball valve quick couplings series, manufactured in carbon steel with zinc plated surface treatment.

Based on the good wearing resistance of the ball valves, the "IR" couplings are used mainly in agricultural applications.

The 1/2 size will interchange with international standard ISO 7241-1 "A".



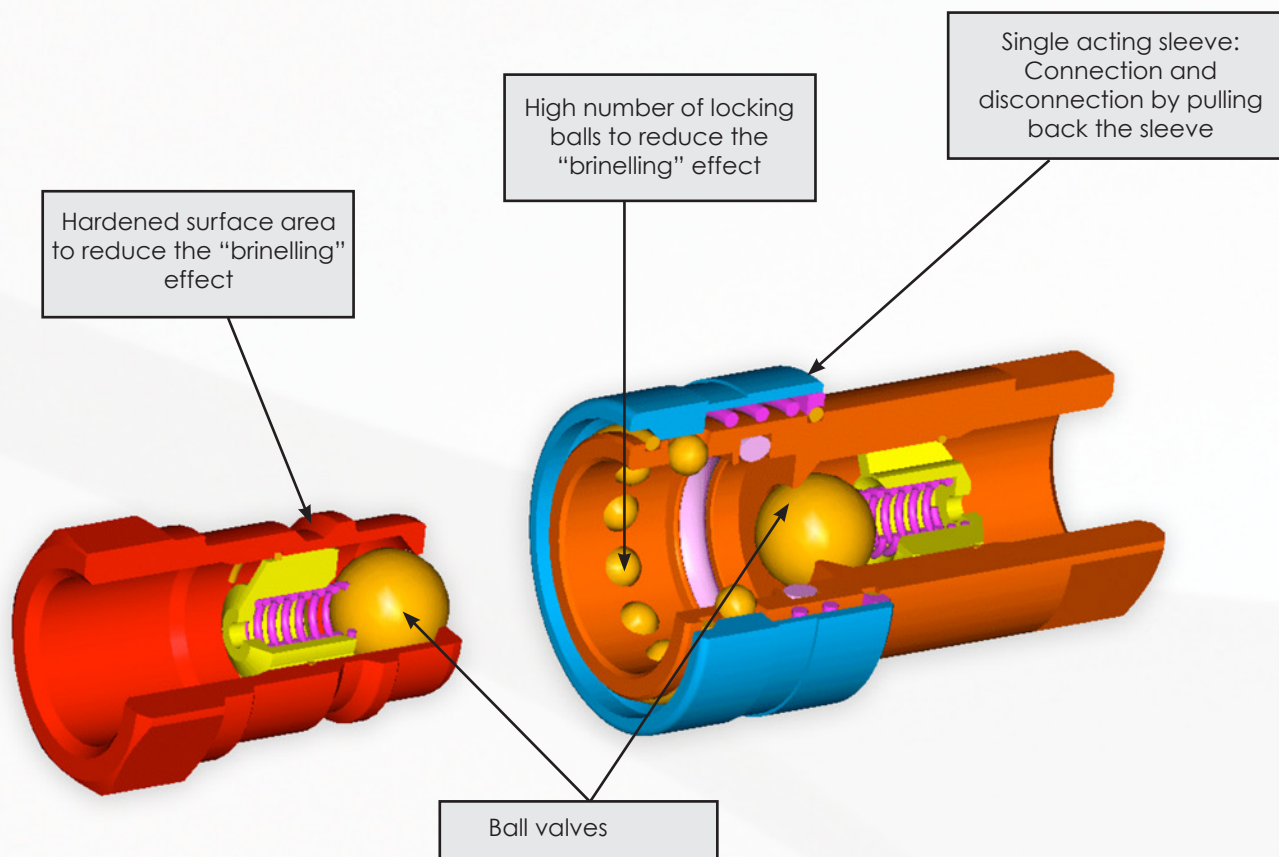
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## TECHNICAL FEATURES AND OPTIONS

- Interchangeability: ISO 7241-1 series "A" (size 1/2 only)
- Valve system: Ball valve
- Mechanical connection: Locking balls
- Connection system: Pulling back the sleeve and pushing one half towards the other
- Disconnection system: Pulling back the sleeve
- Connection with residual pressure: Not allowed
- Disconnection with residual pressure: Not allowed
- Threads available: BSP, NPT
- Construction material: Carbon steel
- Surface treatment: CrIII zinc plated
- Springs: C72 steel
- Balls: Hard steel 100 C6
- Seals: standard in NBR (Nitrile)



## BENEFITS

- Ball valves in hardened steel provide a good wearing resistance.
- Compact slim design.
- Simple to use.

## HOW TO USE

- Before connecting clean the mating parts of the couplings to avoid contamination in the circuit.
- To couple pull back the sleeve of the female coupling, align the female with the male coupling and push one into the other until both halves are fully connected and release the sleeve.
- To uncouple pull back the sleeve of the female coupling, pull out the mating half.

## WARNING!

- Do not couple-uncouple with flow and/or pressure in the circuit.
- Use protection whenever connecting or disconnecting with high temperature (max. allowed 80°C, 176 °F).
- When the couplings are disconnected, it is suggested to use the protection caps.

## PERFORMANCE

Description	Size	ISO Size	Rated flow		Max. flow suggested		Connect force		Disconnect force		Spillage *
	Inch	mm	l/min	GPM	l/min	GPM	N	lbf	N	lbf	ml
IR14	1/4	-	12	3,18	20	5,30	50	11,25	45	10,13	0,13
IR38	3/8	-	23	6,10	46	12,19	125	28,13	45	10,13	0,45
IR12	1/2	12,5	45	11,93	90	23,85	80	18,00	50	11,25	2,30
IR34	3/4	-	74	19,61	148	39,22	190	42,75	45	10,13	4,50
IR100	1	-	100	26,50	150	39,75	100	22,50	45	10,13	6,00

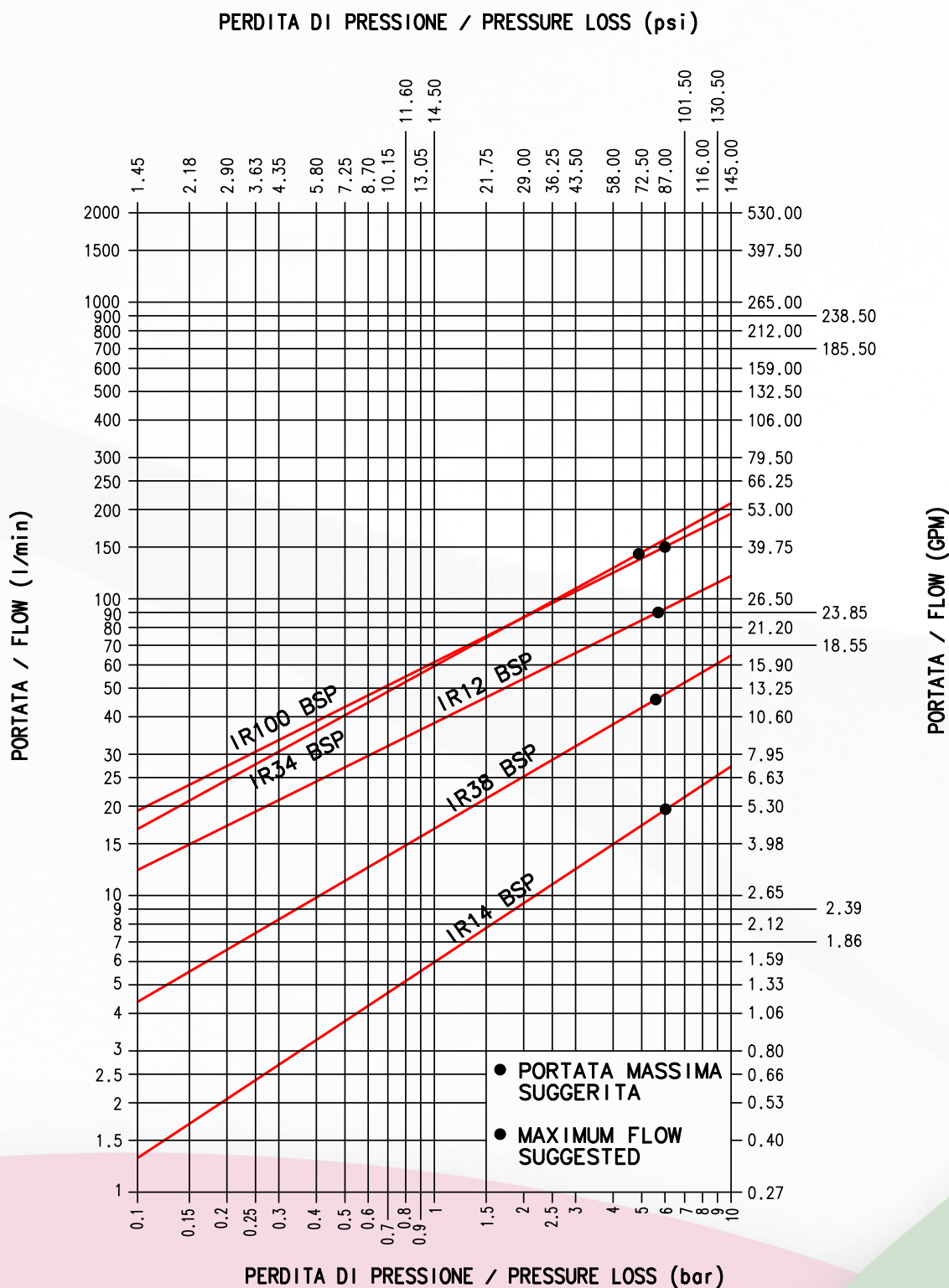
Description	Max. operating pressure						Burst pressure					
	Coupled		Male		Female		Coupled		Male		Female	
	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
IR14	30	4350	30	4350	30	4350	100	14500	100	14500	100	14500
IR38	30	4350	30	4350	30	4350	100	14500	100	14500	90	13050
IR12	25	3625	20	2900	20	2900	80	11600	55	7975	55	7975
IR34	25	3625	20	2900	25	3625	100	14500	60	8700	90	13050
IR100	20	2900	20	2900	20	2900	80	11600	60	8700	80	11600

\* Spillage is an indicative value of the fluid loss per couple-uncouple cycle.

- Temperature range:
- Standard seals NBR (Nitrile): from -20 °C to +100 °C ( from -4 °F to +212 °F).

## PRESSURE DROP

TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2  
TESTS IN ACCORDANCE WITH ISO 7241-2

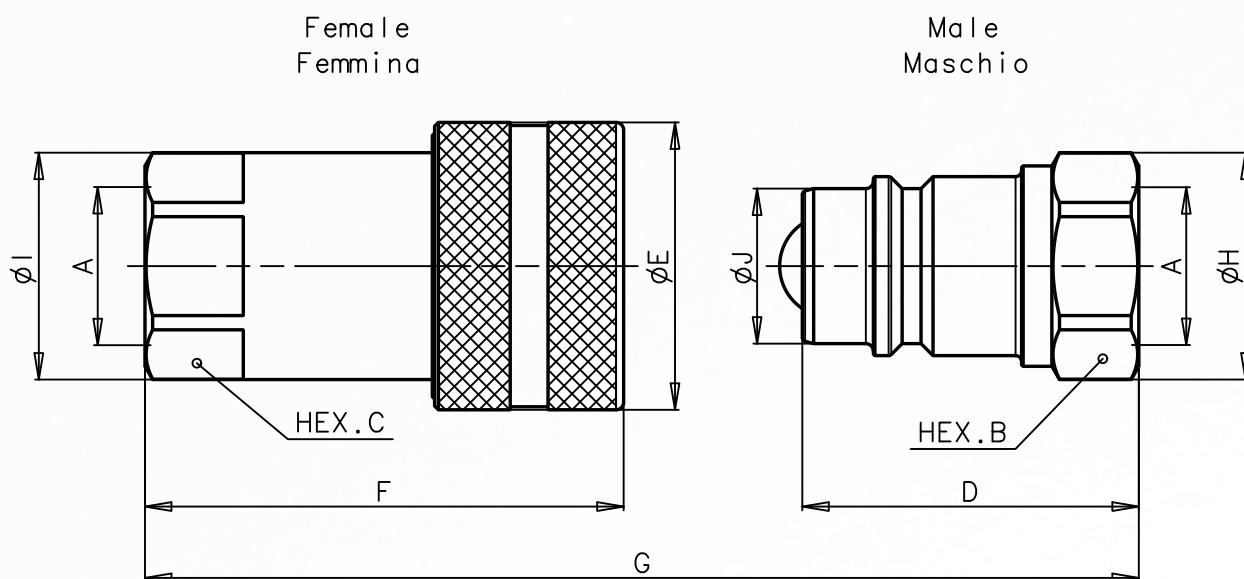


FLUIDO: OLIO ISO VG32  
TEMPERATURA: 40°C  
VISCOSITA': 28.8-35.2 mm<sup>2</sup>/s

FLUID: OIL ISO VG32  
TEMPERATURE: 40°C  
VISCOSITY: 28.8-35.2 mm<sup>2</sup>/s



## OVERALL DIMENSIONS



## FEMALE BSPB THREAD (DIN 3852)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IR14 BSP	1/4	mm Inch	19 0,75	19 0,75	32,5 1,28	27 1,06	48,9 1,93	64,4 2,54	22 0,87	21 0,83	14,2 0,56	Kg lb	0,038 0,08	0,113 0,25
IR38 BSP	3/8	mm Inch	24 0,94	24 0,94	38 1,50	34 1,34	58,3 2,30	76,3 3,00	27,7 1,09	26,5 1,04	19 0,75	Kg lb	0,078 0,17	0,220 0,49
IR12 BSP	1/2	mm Inch	27 1,06	27 1,06	44,5 1,75	38 1,50	63,3 2,49	86,3 3,40	30 1,18	30 1,18	20,5 0,81	Kg lb	0,097 0,21	0,244 0,54
IR34 BSP	3/4	mm Inch	36 1,42	38 1,50	59 2,32	48 1,89	90,3 3,56	118,3 4,66	38,5 1,52	43 1,69	26,9 1,06	Kg lb	0,193 0,43	0,681 1,50
IR100 BSP	1	mm Inch	41 1,61	45 1,77	66,1 2,60	54 2,13	99,6 3,92	132,8 5,23	44,8 1,76	52 2,05	31,4 1,24	Kg lb	0,300 0,66	0,870 1,92

## FEMALE NPT THREAD (ANSI B.1.20.3)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IR14 NPT	1/4	mm Inch	19 0,75	19 0,75	32,5 1,28	27 1,06	48,9 1,93	64,4 2,54	22 0,87	21 0,83	14,2 0,56	Kg lb	0,040 0,09	0,125 0,28
IR38 NPT	3/8	mm Inch	24 0,94	24 0,94	38 1,50	34 1,34	58,3 2,30	76,3 3,00	27,7 1,09	26,5 1,04	19 0,75	Kg lb	0,080 0,18	0,222 0,49
IR12 NPT	1/2	mm Inch	27 1,06	27 1,06	44,5 1,75	38 1,50	63,3 2,49	86,3 3,40	30 1,18	30 1,18	20,5 0,81	Kg lb	0,090 0,20	0,277 0,61
IR34 NPT	3/4	mm Inch	36 1,42	38 1,50	59 2,32	48 1,89	90,3 3,56	118,3 4,66	38,5 1,52	43 1,69	26,9 1,06	Kg lb	0,211 0,47	0,699 1,54
IR100 NPT	1	mm Inch	41 1,61	45 1,77	66,1 2,60	54 2,13	99,6 3,92	132,8 5,23	44,8 1,76	52 2,05	31,4 1,24	Kg lb	0,301 0,66	0,894 1,97



## Series: **IRS-V**

**INTERCHANGE:** ISO 7241-1 series "A"

### MAIN APPLICATIONS

- Agricultural equipment

"IRS-V" is the poppet valve female coupling with panel mounting double action sleeve that allows connection and disconnection operation with a push-pull action that acts as a breakaway function. They are mainly used in agricultural tractor applications where the breakaway function is requested to avoid breakage of the hydraulic connections during unintended disconnection.

It is available in size 1/2 for interchangeability in according ISO 7241-1 series "A". Available are the modular version (I12VA) with metric and other port options and connectable with residual pressure version (IRS12VAPC).

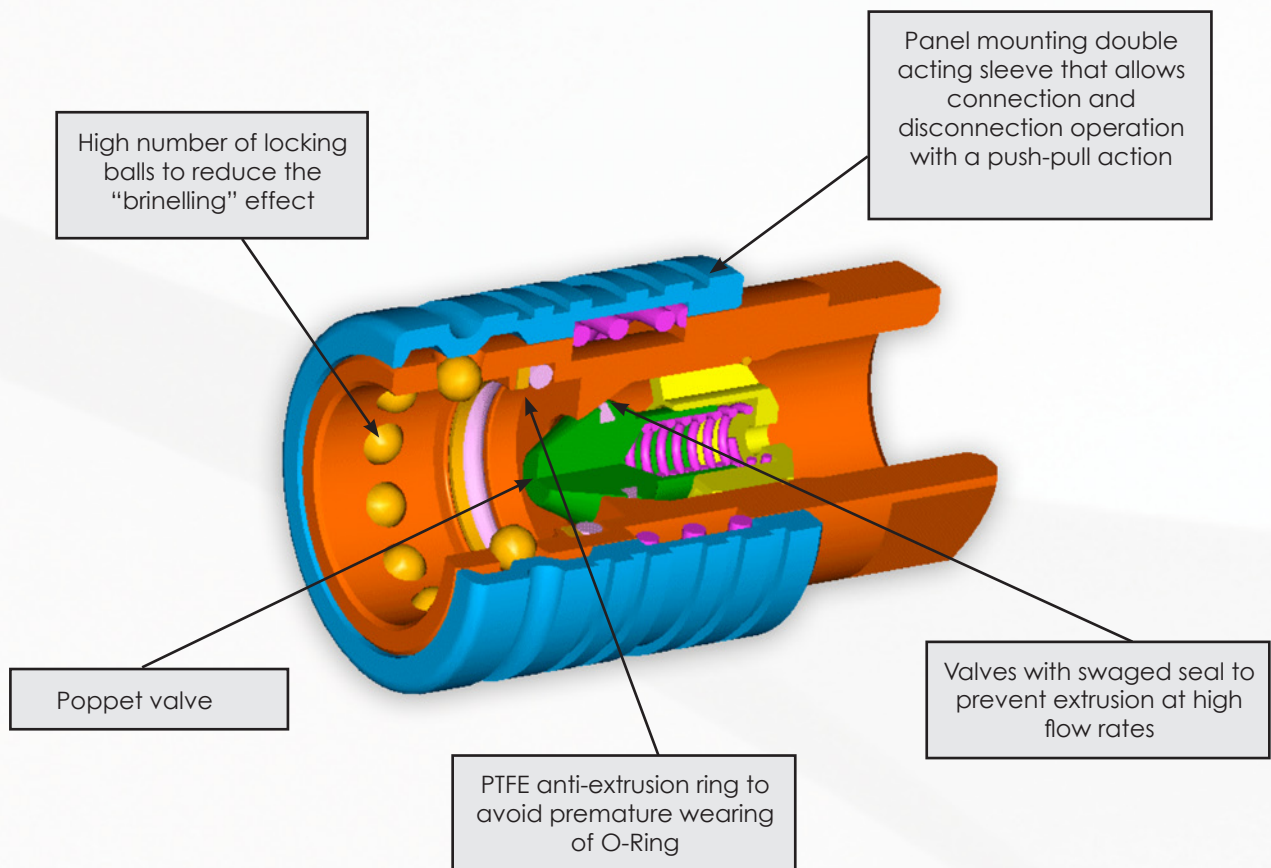


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## TECHNICAL FEATURES AND OPTIONS

- Interchangeability: ISO 7241-1 series "A"
- Valve system: Poppet valve
- Mechanical connection: Locking balls
- Connection system: Pushing the male coupling (push)
- Disconnection system: Pulling the male coupling (pull)
- Connection with residual pressure: Not allowed
- Disconnection with residual pressure: Not allowed
- Threads available: BSP, NPT
- Available: I12VA version with metrics DIN threads or other port options and IRS12VAPC version connectable with residual pressure
- Construction material: Carbon steel
- Surface treatment: CrIII zinc plated
- Springs: C72 steel
- Balls: Hard steel 100 C6
- Seals: standard in NBR (Nitrile)
- Anti-extrusion: PTFE



## BENEFITS

- Breakaway function to avoid breakage of the hydraulic connections in case of strong axial force.
- The poppet valve with elastomer seal provides maximum sealing of the couplings when disconnected.
- Shape of internal parts is designed to reduce turbulence and pressure drop.
- Compact slim design.
- Simple to use.



## HOW TO USE

- For the breakaway function, the coupling must be mounted in a panel locking the sleeve using seeger/snap rings.
- Before connecting clean the mating parts of the couplings to avoid contamination in the circuit.
- To couple push the male coupling into the female coupling.
- To uncouple pull the male coupling.

## WARNING!

- Do not couple-uncouple with flow and/or pressure in the circuit.
- Use protection whenever connecting or disconnecting with high temperature (max. allowed 80°C, 176 °F).
- When the couplings are disconnected, it is suggested to use the protection caps.  
The Nylon clip cap for F-A13 or the Pvc cap for F-B1R12 are suitable.

## PERFORMANCE

Description	Size	ISO Size	Rated flow		Max. flow suggested		Connect force		Disconnect force		Spillage *
	Inch	mm	l/min	GPM	l/min	GPM	N	lbf	N	lbf	ml
IRS12VA	1/2	2,5	45	11,93	90	23,85	120	27,00	95	21,38	2,10

Description	Max. operating pressure						Burst pressure					
	Coupled °		Male		Female		Coupled °		Male		Female	
	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
IRS12VA	25	3625	-	-	25	3625	80	11600	-	-	1000	14500

\* Spillage is an indicative value of the fluid loss per couple-uncouple cycle.

° Tested with male coupling B1R12.

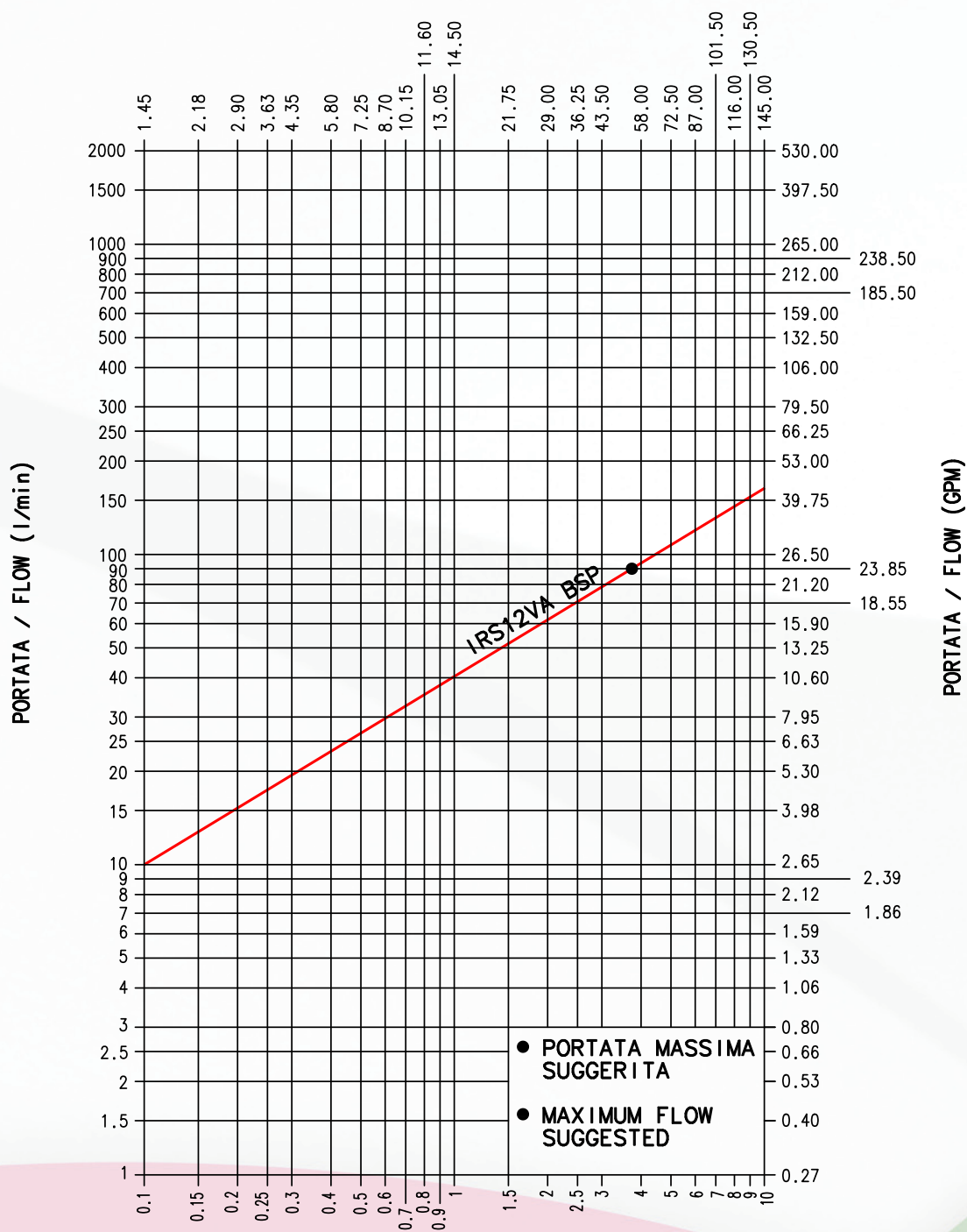
• Temperature range:

- Standard seals NBR (Nitrile): from -20 °C to +100 °C ( from -4 °F to +212 °F).

## PRESSURE DROP

TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2  
TESTS IN ACCORDANCE WITH ISO 7241-2

PERDITA DI PRESSIONE / PRESSURE LOSS (psi)

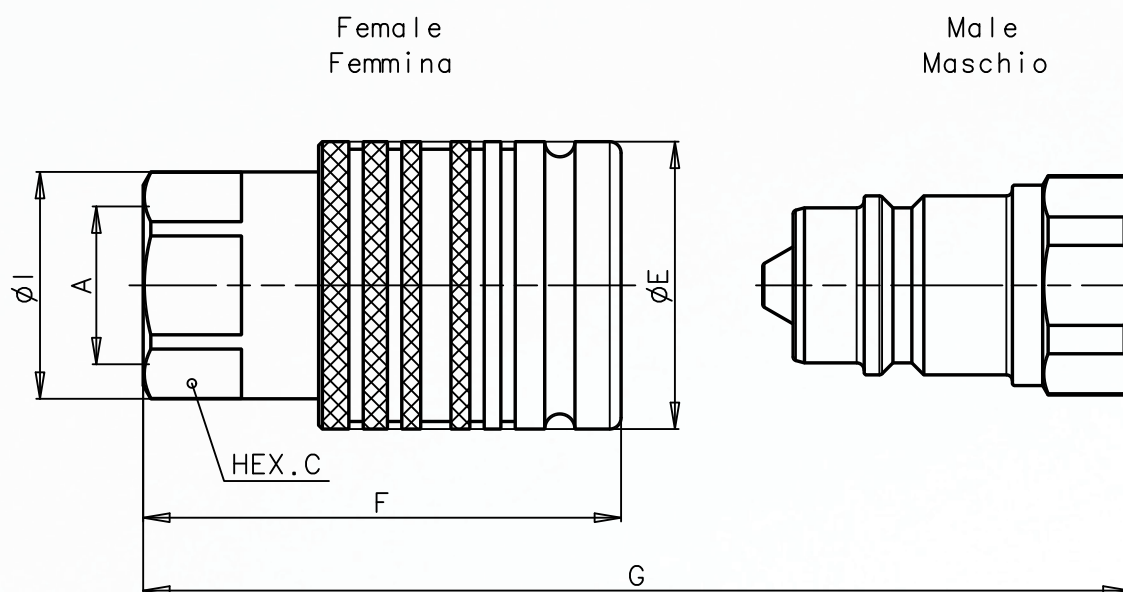


PERDITA DI PRESSIONE / PRESSURE LOSS (bar)

FLUIDO: OLIO ISO VG32  
TEMPERATURA: 40°C  
VISCOSITA': 28.8-35.2 mm<sup>2</sup>/s

FLUID: OIL ISO VG32  
TEMPERATURE: 40°C  
VISCOSITY: 28.8-35.2 mm<sup>2</sup>/s

## OVERALL DIMENSIONS



## FEMALE BSPP THREAD (DIN 3852)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IRS12VA BSP	1/2	mm Inch	- -	27 1,06	- -	38 1,50	63,2 2,49	(F+D) -21,5 (F+D) - 0,85	- -	30 1,18	- -	Kg lb	- -	0,275 0,61

## FEMALE NPT THREAD (ANSI B.1.20.3)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IRS12VA NPT	1/2	mm Inch	- -	27 1,06	- -	38 1,50	63,2 2,49	(F+D) - 21,5 (F+D) - 0,85	- -	30 1,18	- -	Kg lb	- -	0,265 0,58





## Series: **IRS**

**INTERCHANGE:** ISO 7241-1 series "A"

### MAIN APPLICATIONS

- Agricultural equipment

"IRS" is a ball valve female coupling with a panel mounting double acting sleeve that allows connection and disconnection operation with a push-pull action that acts as a breakaway function.

They are mainly used in agricultural tractor applications where the breakaway function is requested to avoid breakage of the hydraulic connections during unintended disconnection.

It is available in size 1/2 for interchangeability in according ISO 7241-1 series "A".

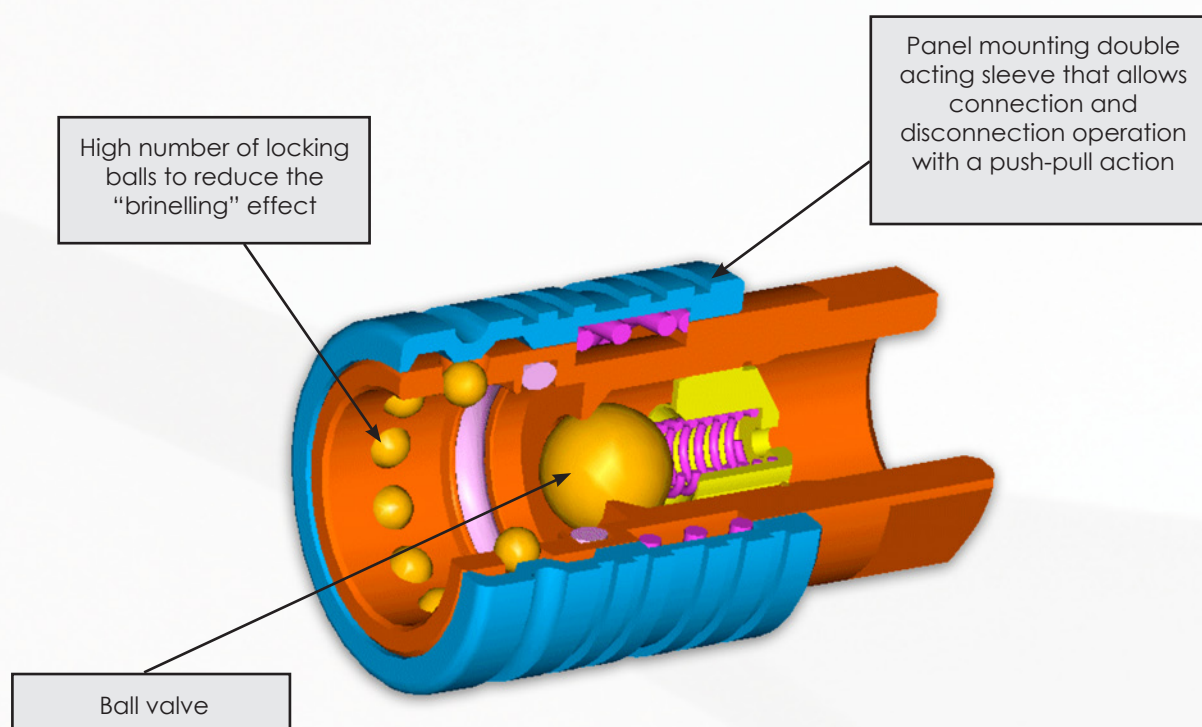


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## TECHNICAL FEATURES AND OPTIONS

- Interchangeability: ISO 7241-1 series "A"
- Valve system: Ball valve
- Mechanical connection: Locking balls
- Connection system: Pushing the male coupling (push)
- Disconnection system: Pulling the male coupling (pull)
- Connection with residual pressure: Not allowed
- Disconnection with residual pressure: Not allowed
- Threads available: BSP, NPT
- Construction material: Carbon steel
- Surface treatment: CrIII zinc plated
- Springs: C72 steel
- Balls: Hard steel 100 C6
- Seals: standard in NBR (Nitrile)



## BENEFITS

- Breakaway function to avoid breakage of the hydraulic connections in case of strong axial force.
- Ball valves in hardened steel provide a good wearing resistance.
- Compact slim design.
- Simple to use.

## HOW TO USE

- For the breakaway function, the coupling must be mounted in a panel locking the sleeve using seeger/snap rings.
- Before connecting clean the mating parts of the couplings to avoid contamination in the circuit.
- To couple push the male coupling into the female coupling.
- To uncouple pull the male coupling.

## WARNING!

- Do not couple-uncouple with flow and/or pressure in the circuit.
- Use protection whenever connecting or disconnecting with high temperature (max. allowed 80°C, 176 °F).
- When the couplings are disconnected, it is suggested to use the protection caps.  
The Nylon clip cap for F-A13 or the Pvc cap for F-BIR12 are suitable.

## PERFORMANCE

Description	Size	ISO Size	Rated flow		Max. flow suggested		Connect force		Disconnect force		Spillage *
	Inch	mm	l/min	GPM	l/min	GPM	N	lbf	N	lbf	ml
IRS12A	1/2	12,5	45	11,93	90	23,85	100	22,50	90	20,25	2,30

Description	Max. operating pressure						Burst pressure					
	Coupled °		Male		Female		Coupled °		Male		Female	
	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
IRS12A	25	3625	-	-	20	2900	80	11600	-	-	55	7975

\* Spillage is an indicative value of the fluid loss per couple-uncouple cycle.

° Tested with male coupling IR12.

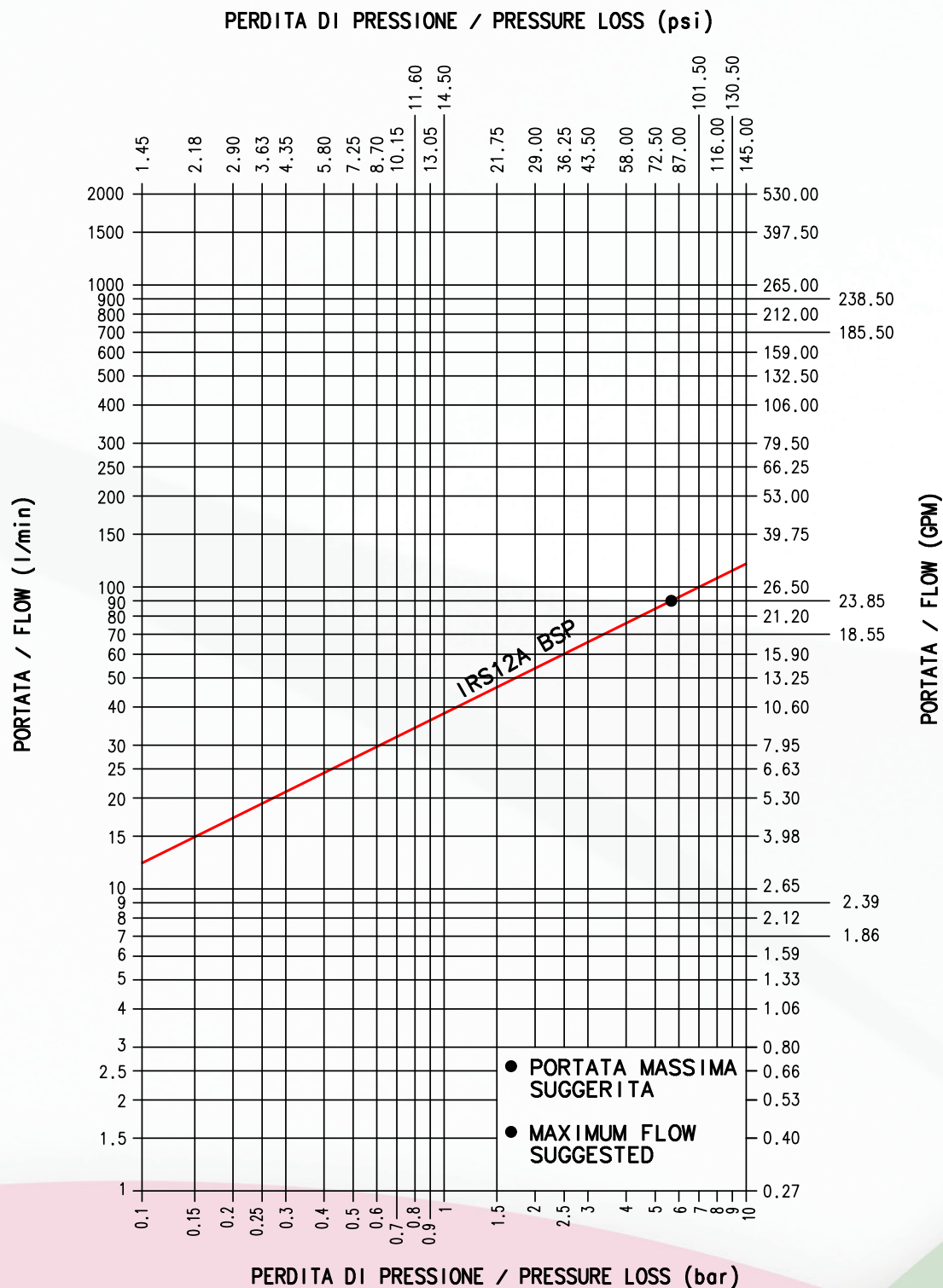
• Temperature range:

- Standard seals NBR (Nitrile): from -20 °C to +100 °C ( from -4 °F to +212 °F).



## PRESSURE DROP

TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2  
TESTS IN ACCORDANCE WITH ISO 7241-2

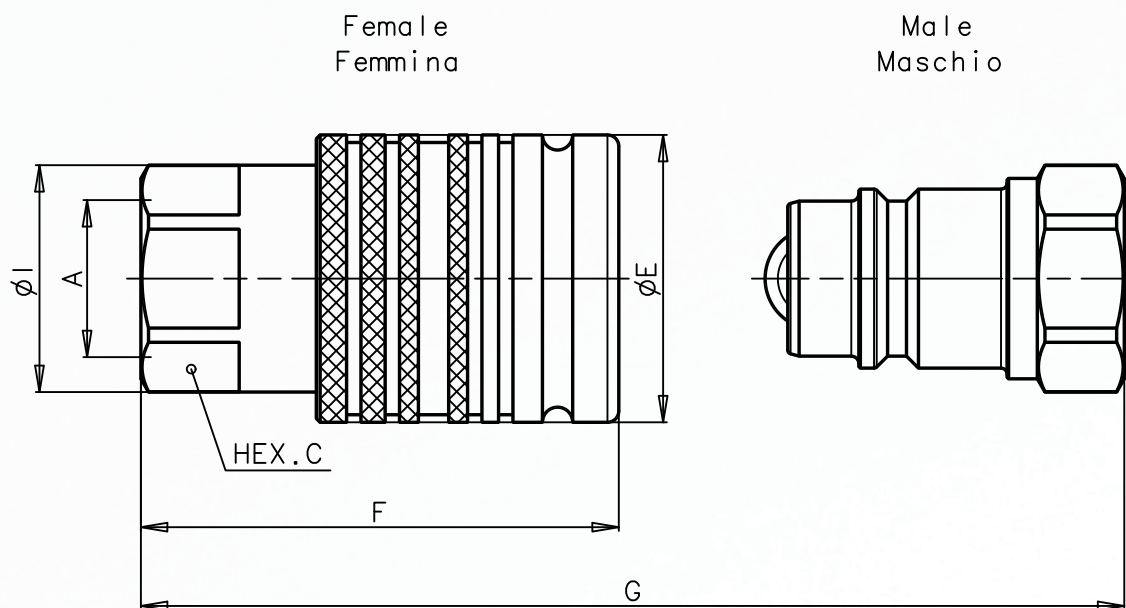


FLUIDO: OLIO ISO VG32  
TEMPERATURA: 40°C  
VISCOSITA': 28.8-35.2 mm<sup>2</sup>/s

FLUID: OIL ISO VG32  
TEMPERATURE: 40°C  
VISCOSITY: 28.8-35.2 mm<sup>2</sup>/s



## OVERALL DIMENSIONS



### FEMALE BSPP THREAD (DIN 3852)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IRS12A BSP	1/2	mm Inch	- -	27 1,06	- -	38 1,50	63,2 2,49	(F+D) -21,5 (F+D) - 0,85	- -	30 1,18	- -	Kg lb	- -	0,288 0,63

### FEMALE NPT THREAD (ANSI B.1.20.3)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IRS12A NPT	1/2	mm Inch	- -	27 1,06	- -	38 1,50	63,2 2,49	(F+D) - 21,5 (F+D) - 0,85	- -	30 1,18	- -	Kg lb	- -	0,292 0,64



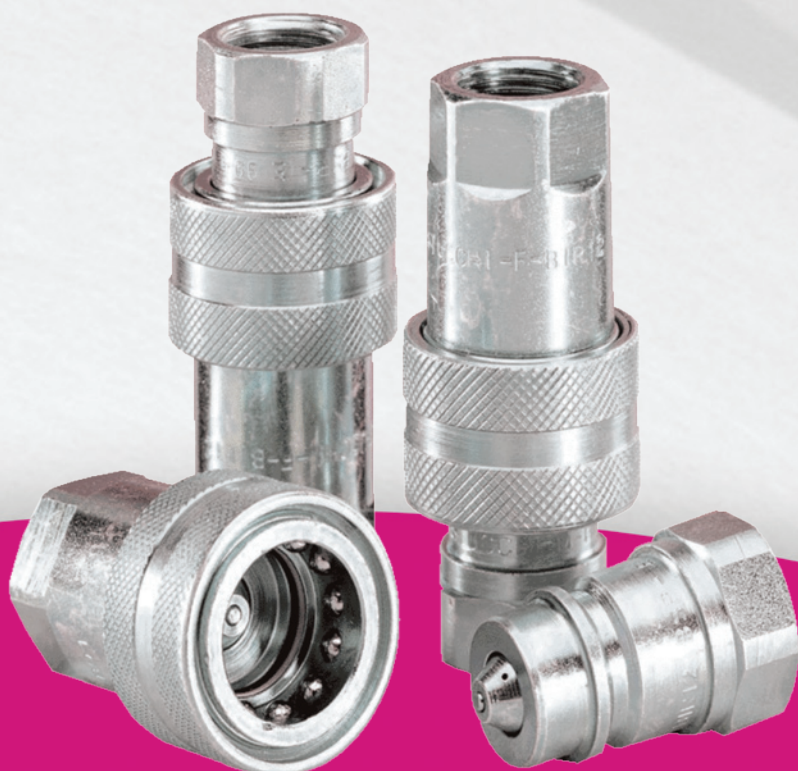
## Series: **BIR-PC**

**INTERCHANGE:** ISO 7241-1 series "A"

### MAIN APPLICATIONS

- Agricultural equipment

"BIR-PC" is a poppet valve quick coupling series with a pressure release poppet valve that allows the connection with residual pressure trapped in the circuit. It is used mainly on agricultural equipment with a closed circuit where internal residual pressure is generated due to thermal expansion when couplings are disconnected. It is available in size 1/2 which is the most common interchange. In addition the modular version (I12PC) is offered with metric threads or other types.

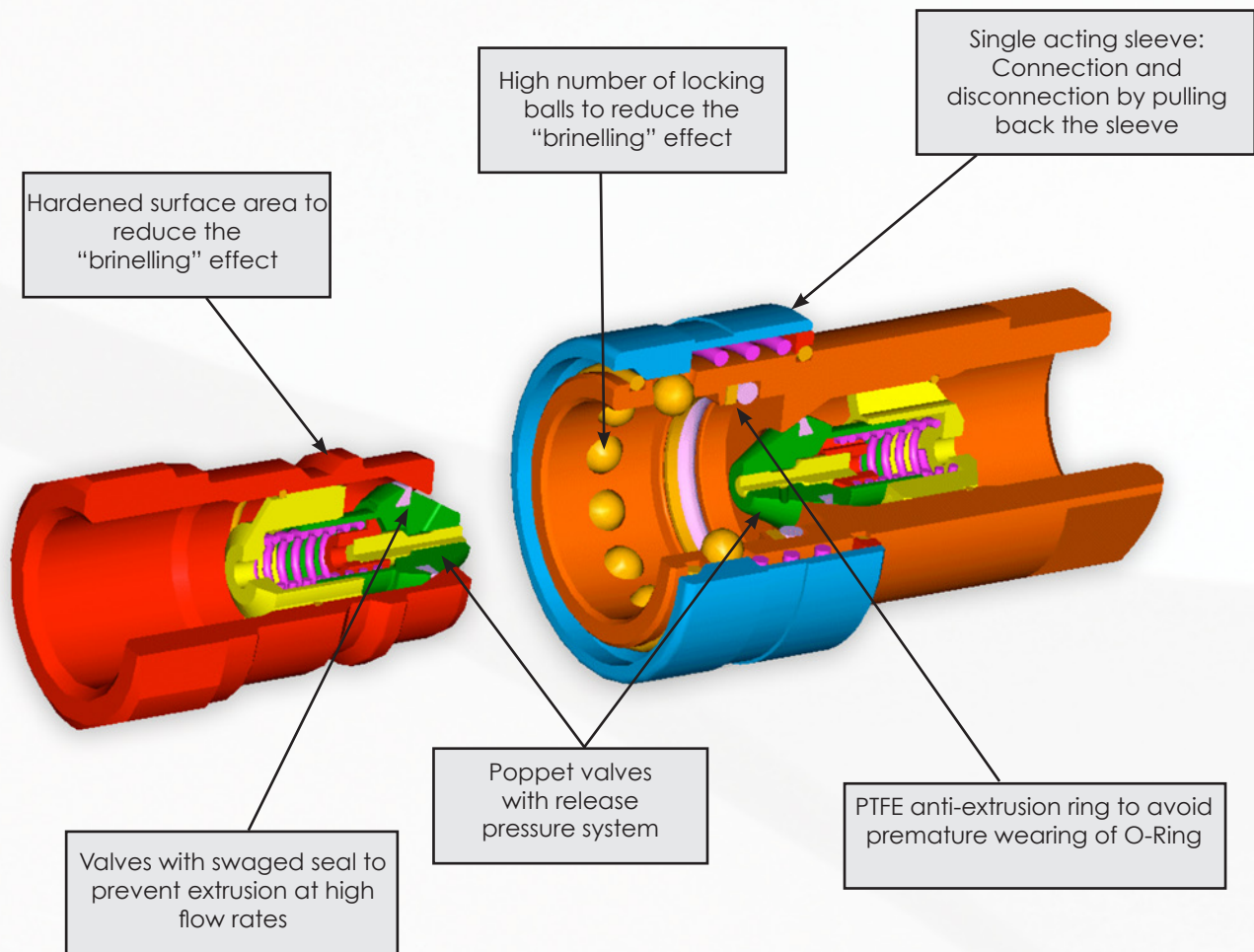


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## TECHNICAL FEATURES AND OPTIONS

- Interchangeability: ISO 7241-1 series "A"
- Valve system: Poppet valve
- Mechanical connection: Locking balls
- Connection system: Pulling back the sleeve and pushing one half towards the other
- Disconnection system: Pulling back the sleeve
- Connection with residual pressure: Allowed in the male coupling, female coupling or both
- Disconnection with residual pressure: Not allowed
- Threads available: BSP, NPT
- On request: I12PC version with metrics DIN threads
- Construction material: Carbon steel
- Surface treatment: CrIII zinc plated
- Springs: C72 steel
- Balls: Hard steel 100 C6
- Seals: standard in NBR (Nitrile)
- Anti-extrusion rings: PTFE



## BENEFITS

- The poppet valves with release pressure system allows manual connection with high internal residual pressure.
- Shape of internal parts is designed to reduce turbulence and pressure drop.
- Compact slim design.
- Simple to use.



## HOW TO USE

- Before connecting clean the mating parts of the couplings to avoid contamination in the circuit.
- To couple pull back the sleeve of the female coupling, align the female with the male coupling and push one into the other until both halves are fully connected and release the sleeve.
- To uncouple pull back the sleeve of the female coupling, pull out the mating half.

## WARNING!

- Do not couple-uncouple with flow in the circuit. Connection is allowed only with residual pressure trapped in the circuit.
- Use protection whenever connecting or disconnecting with high temperature (max. allowed 80°C, 176 °F).
- When the couplings are disconnected, it is suggested to use the protection caps (BIR12).

## PERFORMANCE

Description	Size	ISO Size	Rated flow		Max. flow suggested		Connect force °		Disconnect force		Spillage*
	Inch	mm	l/min	GPM	l/min	GPM	N	lbf	N	lbf	ml
BIR12PC	1/2	12,5	45	11,93	90	23,85	70	15,75	55	12,38	2,10

Description	Max. operating pressure						Burst pressure					
	Coupled		Male		Female		Coupled		Male		Female	
	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
BIR12PC	25	3625	25	3625	25	3625	80	11600	80	11600	100	14500

° Connect force without residual pressure. The force increase to increasing of internal residual pressure.

Max. residual pressure: 25 Mpa (3625 psi).

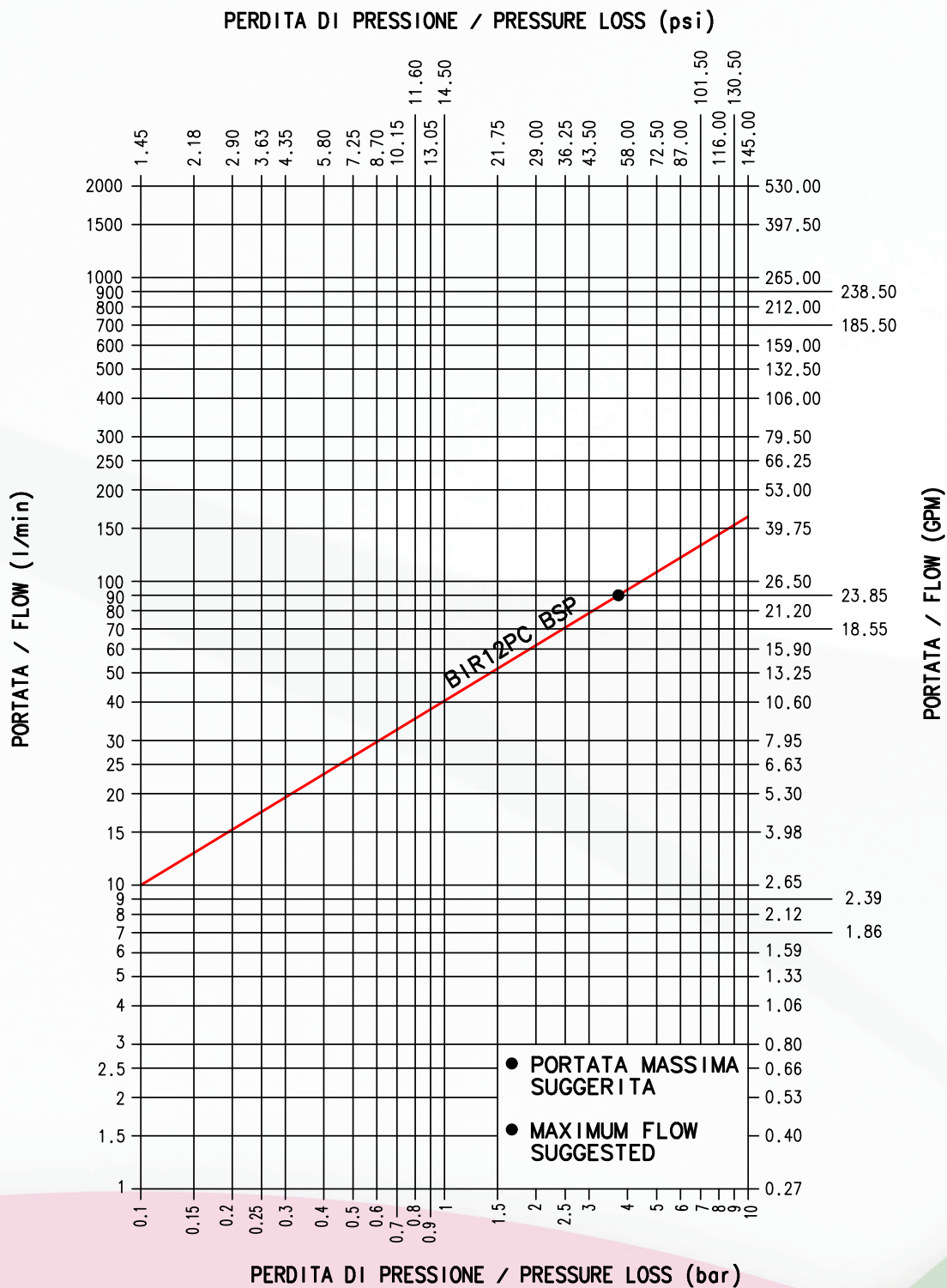
\* Spillage is an indicative value of the fluid loss per couple-uncouple cycle without residual pressure.

• Temperature range:

- Standard seals NBR (Nitrile): from -20 °C to +100 °C ( from -4 °F to +212 °F).

## PRESSURE DROP

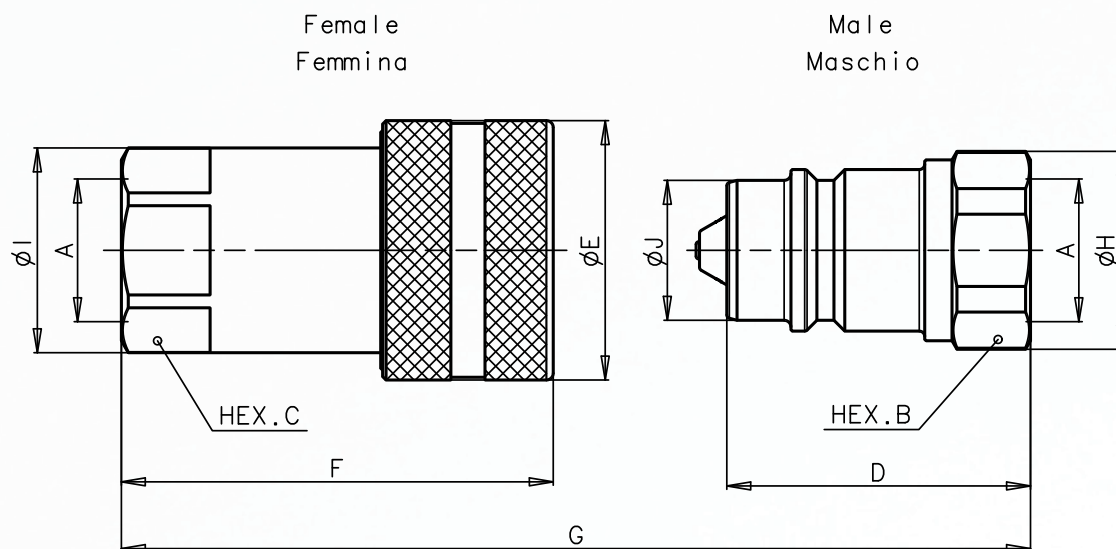
TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2  
TESTS IN ACCORDANCE WITH ISO 7241-2



FLUIDO: OLIO ISO VG32  
TEMPERATURA: 40°C  
VISCOSITA': 28.8-35.2 mm<sup>2</sup>/s

FLUID: OIL ISO VG32  
TEMPERATURE: 40°C  
VISCOSITY: 28.8-35.2 mm<sup>2</sup>/s

## OVERALL DIMENSIONS



## FEMALE BSPP THREAD (DIN 3852)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
BIR12PC BSP	1/2	mm Inch	27 1,06	27 1,06	44,5 1,75	38 1,50	63,3 2,49	86,3 3,40	29 1,14	30 1,18	20,5 0,81	Kg lb	0,084 0,19	0,245 0,54

## FEMALE NPT THREAD (ANSI B.1.20.3)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
BIR12PC NPT	1/2	mm Inch	27 1,06	27 1,06	44,5 1,75	38 1,50	63,3 2,49	86,3 3,40	29 1,14	30 1,18	20,5 0,81	Kg lb	0,090 0,20	0,250 0,55





## Series: **IV-HP**

**INTERCHANGE:** With similar couplings

### MAIN APPLICATIONS

- Hydraulic jacks
- Hydraulic clamping devices
- Hydraulic cylinders
- Hydraulic tools

"IV-HP" is a screw to connect coupling series with ball valves. This series is intended for high pressure hydraulic applications up to 700 bar / 10000 psi. The couplings are manufactured with high resistance carbon steel with zinc plated treatment. They are interchangeable with similar couplings existing on the market and used mainly for hydraulic jacks and cylinders.

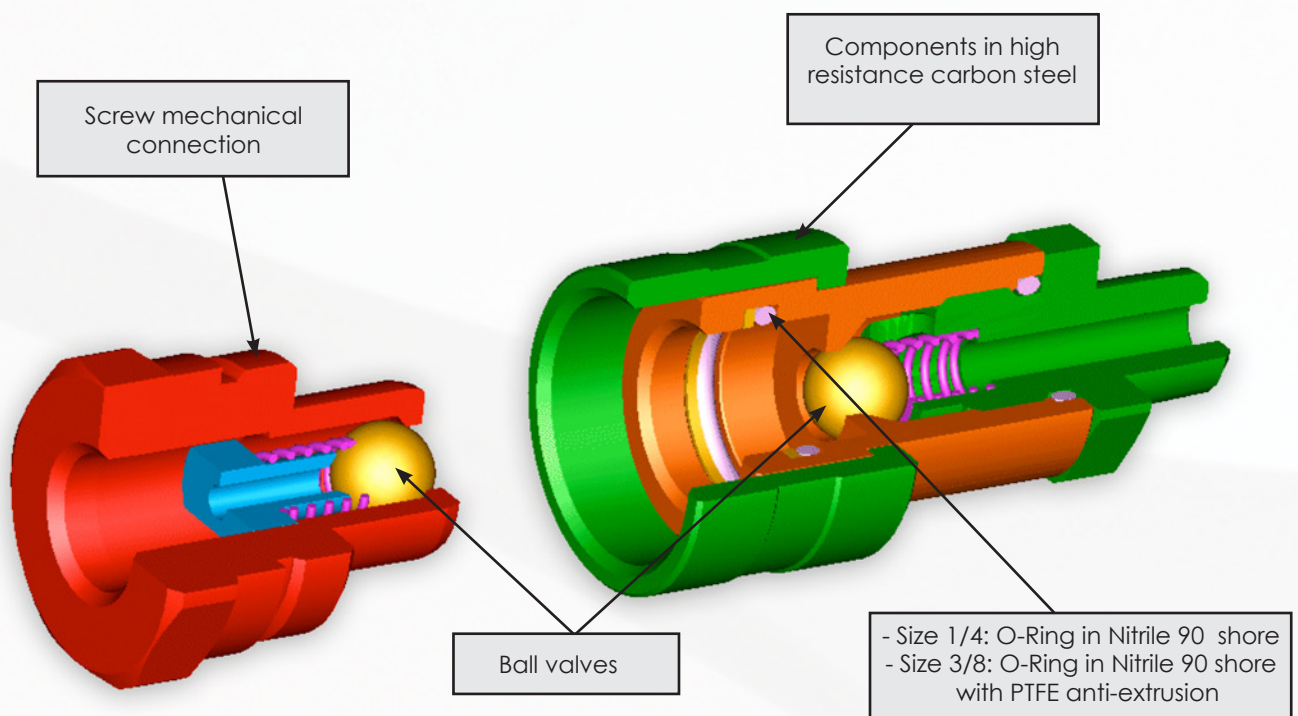


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## TECHNICAL FEATURES AND OPTIONS

- Interchangeability: With similar couplings
- Valve system: Ball valve
- Mechanical connection: Screw system
- Connection system: Screw to connect
- Disconnection system: Unscrew to disconnect
- Connection with residual pressure: Not allowed
- Disconnection with residual pressure: Not allowed
- Threads available: NPT
- Construction material: High resistance carbon steel
- Surface treatment: CrIII zinc plated
- Springs: C72 steel
- Balls: Hard steel 100 C6
- Seals: NBR (Nitrile)
- Anti-extrusion rings: PTFE



## BENEFITS

- Ball valves in hardened steel provide a good wearing resistance.
- Compact slim design.
- Simple to use.

## HOW TO USE

- Before connecting clean the mating parts of the couplings to avoid contamination in the circuit.
- To connect insert the male coupling in the female coupling, move forward the sleeve of the female coupling and screw it manually on the male coupling till it blocks.
- To disconnect unscrew totally the sleeve from the male coupling.

## WARNING!

- Do not couple-uncouple with flow and/or pressure in the circuit.
- Use protection whenever connecting or disconnecting with high temperature (max. allowed 80°C, 176 °F).
- When the couplings are disconnected, it is suggested to use the protection caps.

## PERFORMANCE

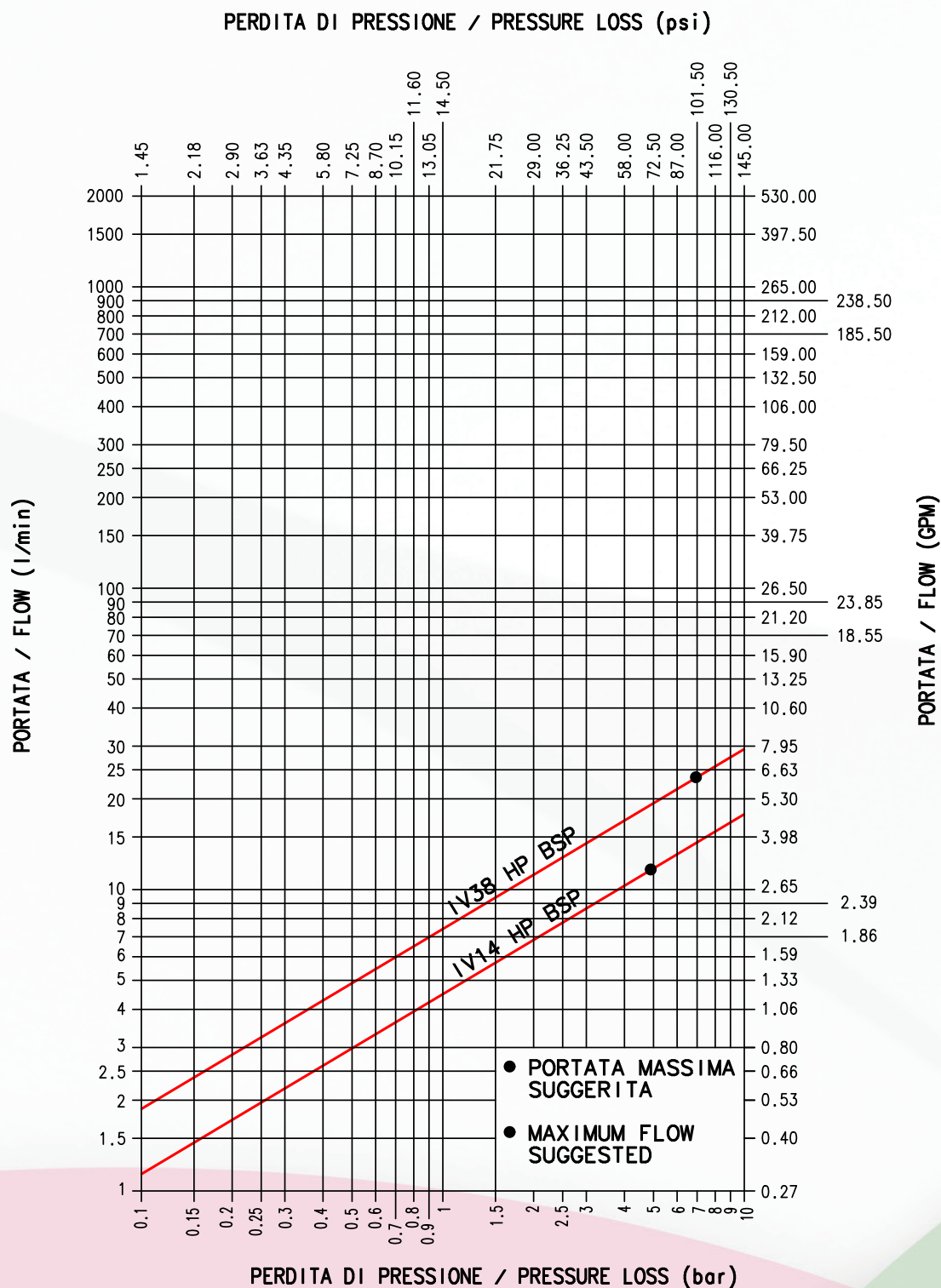
Description	Size	ISO Size	Max. flow suggested		Max. operating pressure	
	Inch		l/min	GPM	Mpa	psi
IV14HP	1/4	-	12	3,18	70	10000
IV38HP	3/8	-	23	6,10	70	10000

- Temperature range:
  - Standard seals NBR (Nitrile): from -20 °C to +100 °C ( from -4 °F to +212 °F).



## PRESSURE DROP

TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2  
TESTS IN ACCORDANCE WITH ISO 7241-2



FLUIDO: OLIO ISO VG32  
TEMPERATURA: 40°C  
VISCOSITA': 28.8-35.2 mm<sup>2</sup>/s

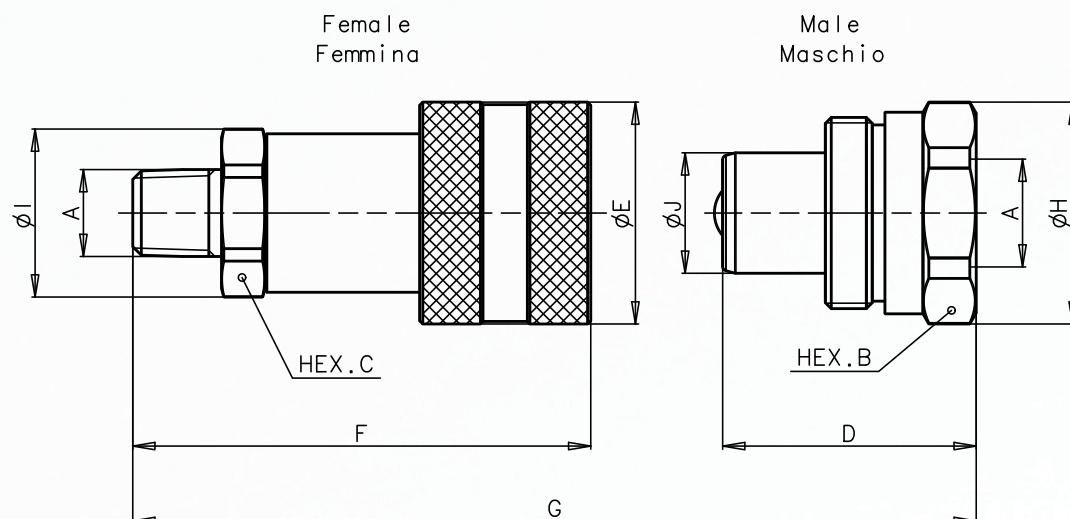
FLUID: OIL ISO VG32  
TEMPERATURE: 40°C  
VISCOSITY: 28.8-35.2 mm<sup>2</sup>/s



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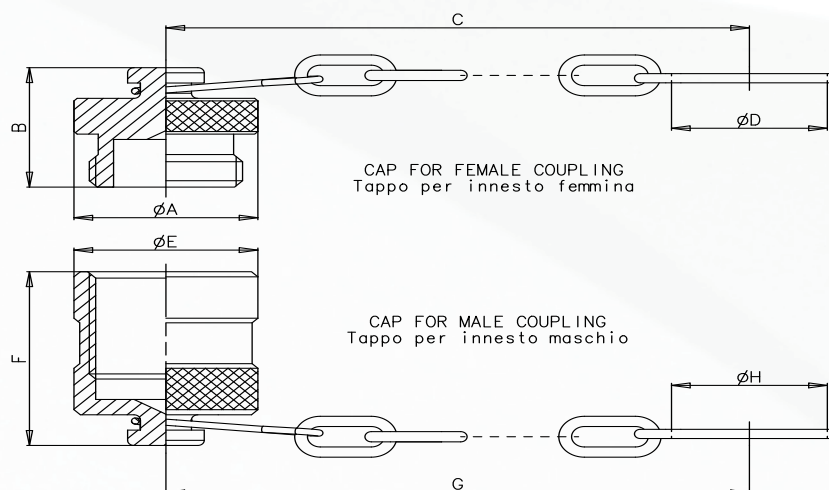
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## OVERALL DIMENSIONS



## NPT THREAD (ANSI B.1.20.3)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IV14HP NPT	1/4	mm	19	22	32,5	28	60,8	74,5	28	24,5	15,8	Kg	0,074	0,138
		Inch	0,75	0,87	1,28	1,10	2,39	2,93	1,10	0,96	0,62	lb	0,16	0,30
IV38HP NPT	3/8	mm	32	24	40	35	72,2	86,8	35	26,5	19	Kg	0,140	0,223
		Inch	1,26	0,94	1,57	1,38	2,84	3,42	1,38	1,04	0,75	lb	0,31	0,49



## OVERALL DIMENSIONS CAPS FOR IV-HP

Description	Coupling	Unit	A	B	C	D	E	F	G	H	Unit	Weight
-	F-IV14HP	mm	28	20,5	98	24	-	-	-	-	Kg	0,045
		Inch	1,10	0,81	3,86	0,94	-	-	-	-	lb	0,10
-	M-IV14HP	mm	-	-	-	-	28	28,5	98	24	Kg	0,040
		Inch	-	-	-	-	1,10	1,12	3,86	0,94	lb	0,09
-	F-IV38HP	mm	35	23,5	110	24	-	-	-	-	Kg	0,070
		Inch	1,38	0,93	4,33	0,94	-	-	-	-	lb	0,15
-	M-IV38HP	mm	-	-	-	-	35	36,6	110	24	Kg	0,095
		Inch	-	-	-	-	1,38	1,44	4,33	0,94	lb	0,21



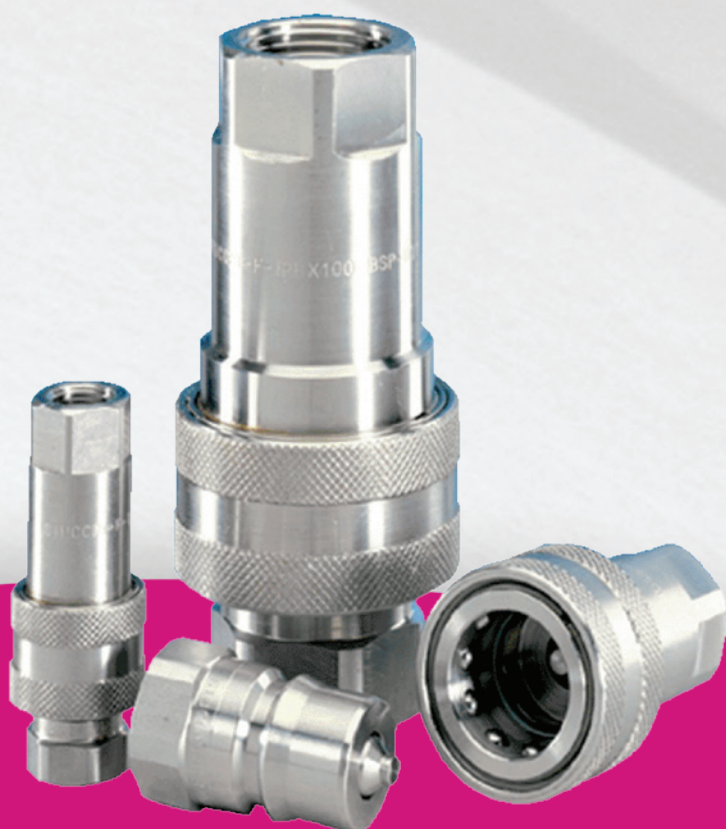
## Series: **IRBX**

**INTERCHANGE:** ISO 7241-1 series "B"

### MAIN APPLICATIONS

- Industrial equipment
- Chemical - Pharmaceutical
- Offshore - Marine
- Food industry

"IRBX" is a poppet valve quick couplings series interchangeable with international standard ISO 7241-1 "B", manufactured in stainless steel 316. "IRBX" is intended for applications subject to corrosive environments or mediums.



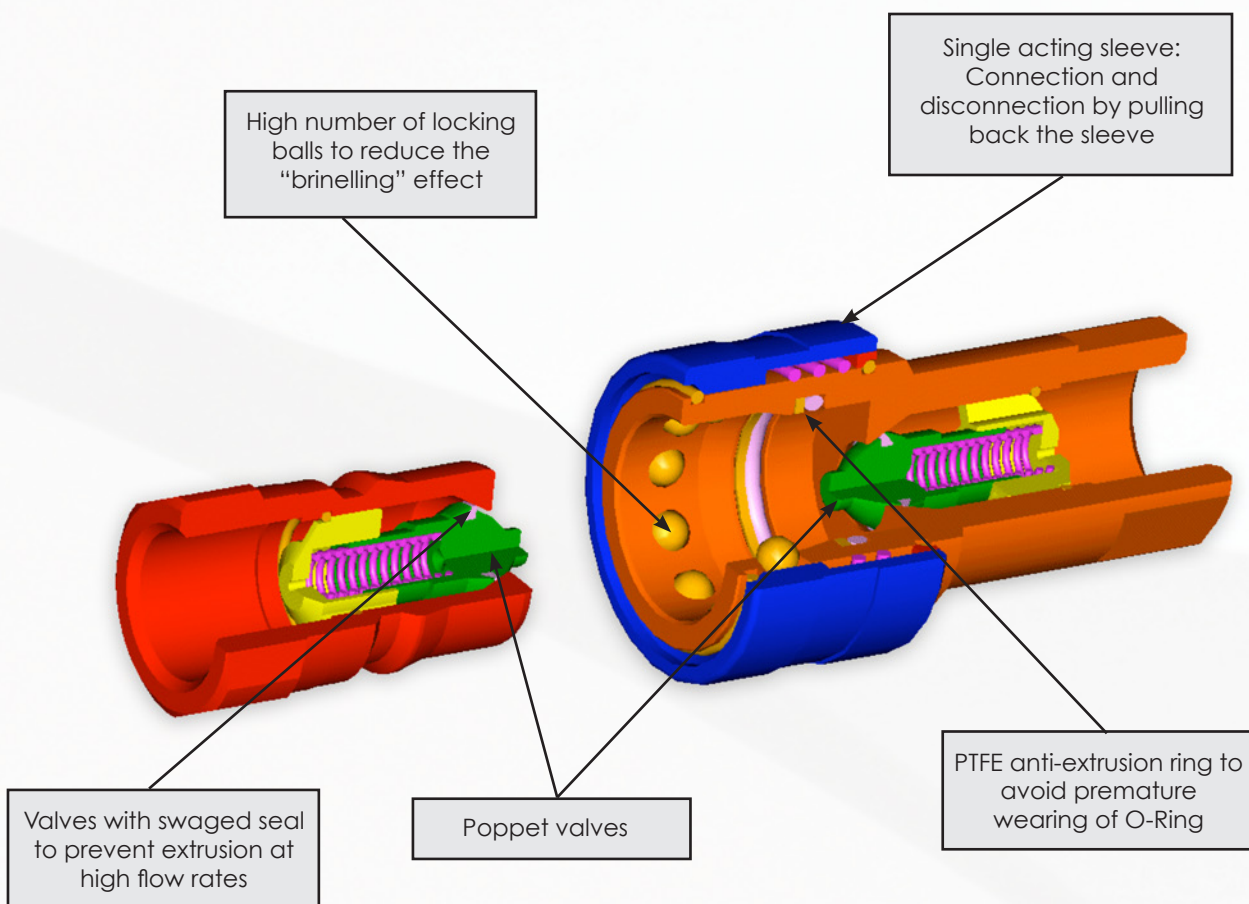
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## TECHNICAL FEATURES AND OPTIONS

- Interchangeability: ISO 7241-1 series "B"
- Valve system: Poppet valve
- Mechanical connection: Locking balls
- Connection system: Pulling back the sleeve and pushing one half towards the other
- Disconnection system: Pulling back the sleeve
- Connection with residual pressure: Not allowed
- Disconnection with residual pressure: Not allowed
- Threads available: BSP, NPT
- On request: Free flow version (no valving)
- Construction material: Stainless steel AISI 316
- Internal retainer in brass
- Springs: AISI 302
- Balls: AISI 316
- Seals: standard in VITON
- Seals on request: NBR, EPDM
- Anti-extrusion rings: PTFE
- On request: Internal retainer in AISI 316



## BENEFITS

- The poppet valve with elastomer seal provides maximum sealing of the couplings when disconnected.
- Shape of internal parts is designed to reduce turbulence and pressure drop.
- Optimal resistance to the corrosion.
- Compact slim design.
- Simple to use.



## HOW TO USE

- Before connecting clean the mating parts of the couplings to avoid contamination in the circuit.
- To couple pull back the sleeve of the female coupling, align the female with the male coupling and push one into the other until both halves are fully connected and release the sleeve.
- To uncouple pull back the sleeve of the female coupling, pull out the mating half.

## WARNING!

- Do not couple-uncouple with flow and/or pressure in the circuit.
- Use protection whenever connecting or disconnecting with high temperature (max. allowed 80°C, 176 °F).

## PERFORMANCE

Description	Size	ISO Size	Rated flow		Max. flow suggested		Connect force		Disconnect force		Spillage *
	Inch	mm	l/min	GPM	l/min	GPM	N	lbf	N	lbf	ml
IRBX18	1/8	5,0	3	0,80	6	1,59	75	16,88	35	7,88	0,18
IRBX14	1/4	6,3	12	3,18	24	6,36	60	13,50	30	6,75	0,33
IRBX38	3/8	10,0	23	6,10	46	12,19	90	20,25	35	7,88	2,20
IRBX12	1/2	12,5	45	11,93	90	23,85	125	28,13	45	10,13	3,00
IRBX34	3/4	20,0	74	19,61	148	39,22	135	30,38	55	12,38	9,40
IRBX100	1	25,0	100	26,50	200	53,00	140	31,50	40	9,00	14,00

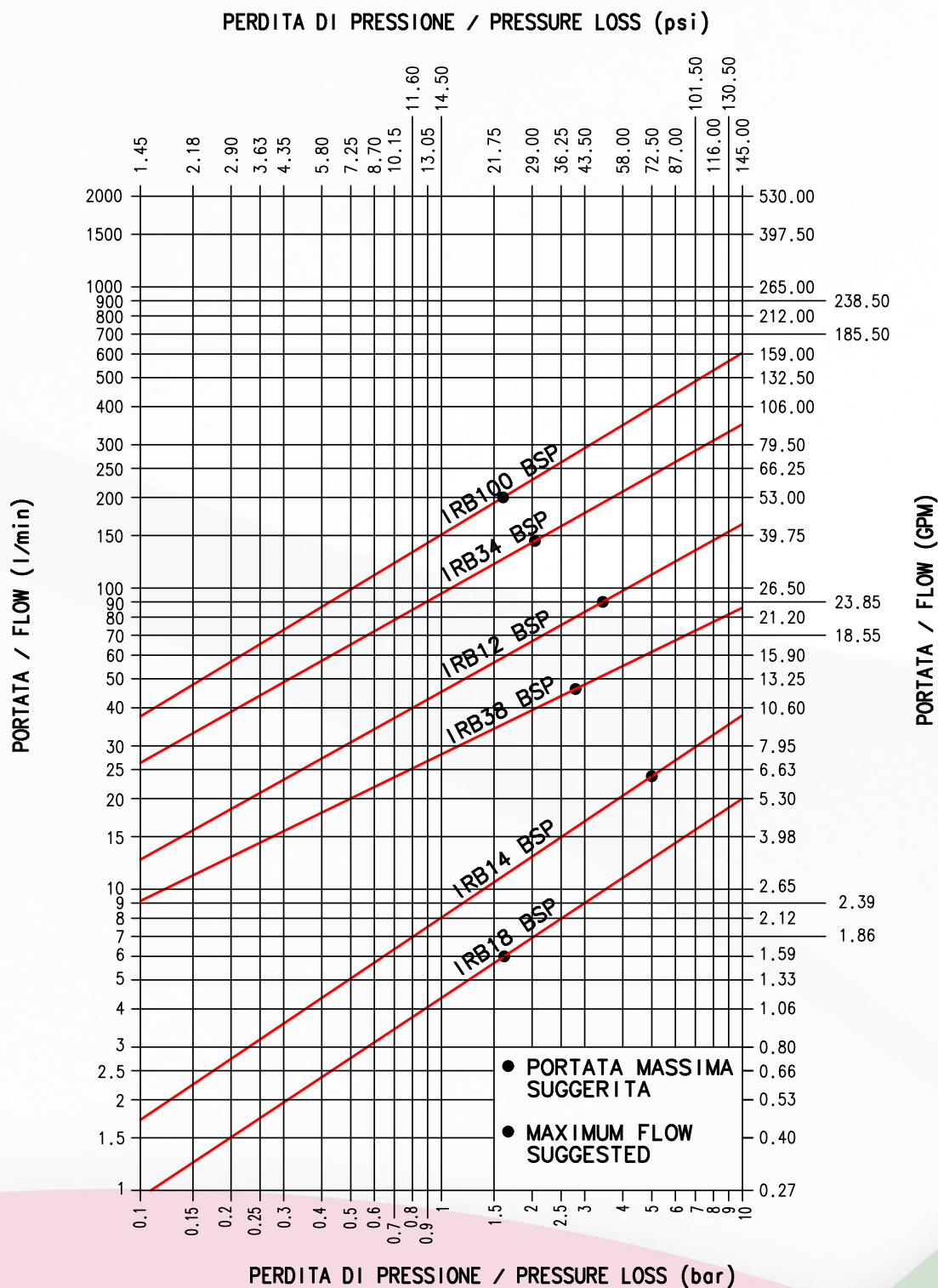
Description	Max. operating pressure						Burst pressure					
	Coupled		Male		Female		Coupled		Male		Female	
	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
IRBX18	25	3625	25	3625	25	3625	140	20300	140	20300	140	20300
IRBX14	25	3625	25	3625	25	3625	140	20300	140	20300	140	20300
IRBX38	20	2900	20	2900	20	2900	100	14500	100	14500	100	14500
IRBX12	20	2900	20	2900	20	2900	100	14500	100	14500	100	14500
IRBX34	16	2320	16	2320	16	2320	80	11600	80	11600	80	11600
IRBX100	12,5	1813	12,5	1813	12,5	1813	60	8700	60	8700	60	8700

\* Spillage is an indicative value of the fluid loss per couple-uncouple cycle.

- Temperature range:
  - Standard seals VITON: from -15°C to +180°C ( from +5 °F to +356 °F).
  - NBR (Nitrile) seals: from -20 °C to +100 °C ( from -4 °F to +212 °F).
  - EPDM (Ethylene Propylene) seals: from -40°C to +150°C ( from -40 °F to +302 °F).

## PRESSURE DROP

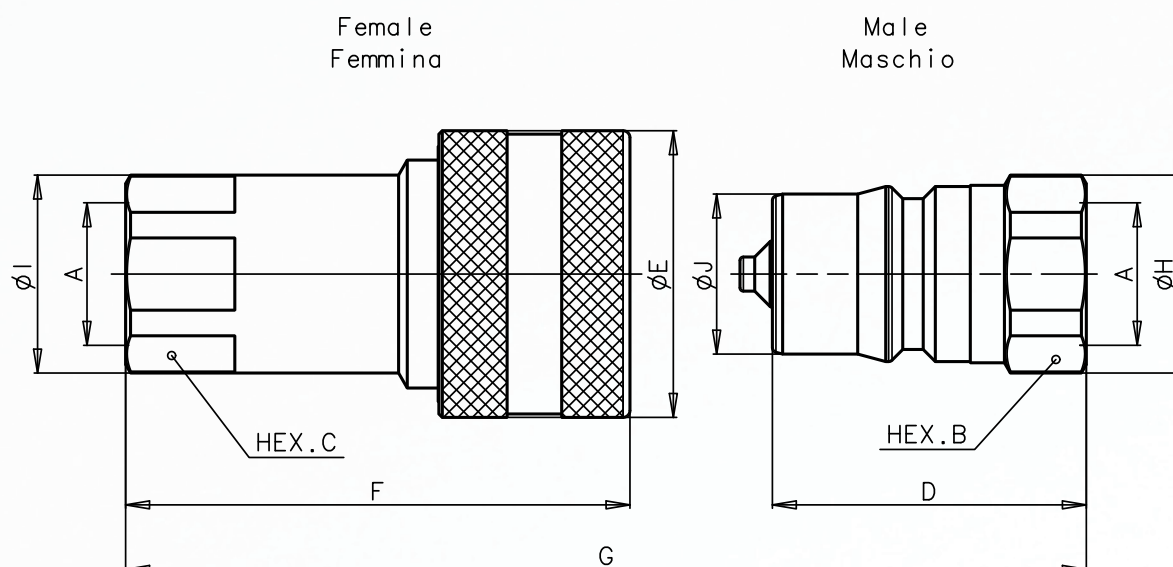
TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2  
TESTS IN ACCORDANCE WITH ISO 7241-2



FLUIDO: OLIO ISO VG32  
TEMPERATURA: 40°C  
VISCOSITA': 28.8-35.2 mm<sup>2</sup>/s

FLUID: OIL ISO VG32  
TEMPERATURE: 40°C  
VISCOSITY: 28.8-35.2 mm<sup>2</sup>/s

## OVERALL DIMENSIONS



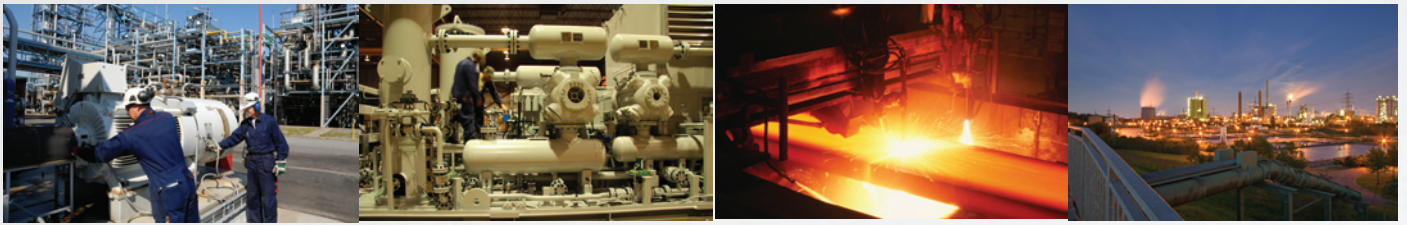
## FEMALE BSPB THREAD (DIN 3852)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IRBX18 BSP	1/8	mm	14	14	30	23	48,8	60,5	15,8	15,8	10,8	Kg	0,018	0,069
		Inch	0,55	0,55	1,18	0,91	1,92	2,38	0,62	0,62	0,43	Lb	0,04	0,15
IRBX14 BSP	1/4	mm	19	19	35	27	57	70,7	20,8	21,2	14,2	Kg	0,036	0,123
		Inch	0,75	0,75	1,38	1,06	2,24	2,78	0,82	0,83	0,56	Lb	0,08	0,27
IRBX38 BSP	3/8	mm	24	24	41	34	66	82,7	26	27	19,1	Kg	0,069	0,225
		Inch	0,94	0,94	1,61	1,34	2,60	3,26	1,02	1,06	0,75	Lb	0,15	0,50
IRBX12 BSP	1/2	mm	27	27	46	42	73,9	92,6	29	29	23,5	Kg	0,104	0,326
		Inch	1,06	1,06	1,81	1,65	2,91	3,65	1,14	1,14	0,93	Lb	0,23	0,72
IRBX34 BSP	3/4	mm	36	36	55	50	90,1	111,1	38,5	38,5	31,4	Kg	0,205	0,575
		Inch	1,42	1,42	2,17	1,97	3,55	4,37	1,52	1,52	1,24	Lb	0,45	1,27
IRBX100 BSP	1	mm	41	41	66	60	106,2	133,2	44,8	44,8	37,7	Kg	0,336	0,880
		Inch	1,61	1,61	2,60	2,36	4,18	5,24	1,76	1,76	1,48	Lb	0,74	1,94

## FEMALE NPT THREAD (ANSI B.1.20.3)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IRBX18 NPT	1/8	mm	14	14	30	23	48,8	60,5	15,8	15,8	10,8	Kg	0,018	0,068
		Inch	0,55	0,55	1,18	0,91	1,92	2,38	0,62	0,62	0,43	Lb	0,04	0,15
IRBX14 NPT	1/4	mm	19	19	35	27	57	70,7	20,8	21,2	14,2	Kg	0,037	0,123
		Inch	0,75	0,75	1,38	1,06	2,24	2,78	0,82	0,83	0,56	Lb	0,08	0,27
IRBX38 NPT	3/8	mm	24	24	41	34	66	82,7	26	27	19,1	Kg	0,069	0,225
		Inch	0,94	0,94	1,61	1,34	2,60	3,26	1,02	1,06	0,75	Lb	0,15	0,50
IRBX12 NPT	1/2	mm	27	27	46	42	73,9	92,6	29	29	23,5	Kg	0,107	0,328
		Inch	1,06	1,06	1,81	1,65	2,91	3,65	1,14	1,14	0,93	Lb	0,24	0,72
IRBX34 NPT	3/4	mm	36	36	55	50	90,1	111,1	38,5	38,5	31,4	Kg	0,210	0,581
		Inch	1,42	1,42	2,17	1,97	3,55	4,37	1,52	1,52	1,24	Lb	0,46	1,28
IRBX100 NPT	1	mm	41	41	66	60	106,2	133,2	44,8	44,8	37,7	Kg	0,336	0,887
		Inch	1,61	1,61	2,60	2,36	4,18	5,24	1,76	1,76	1,48	Lb	0,74	1,96





## Series: **IRBO**

**INTERCHANGE:** ISO 7241-1 series "B"

### MAIN APPLICATIONS

- Industrial equipment
- Cooling system

"IRBO" is a poppet valve quick couplings series interchangeable with international standard ISO 7241-1 "B", manufactured in brass and with springs and locking balls in stainless steel. "IRBO" series offers corrosive resistance for applications compatible with brass in industrial applications.

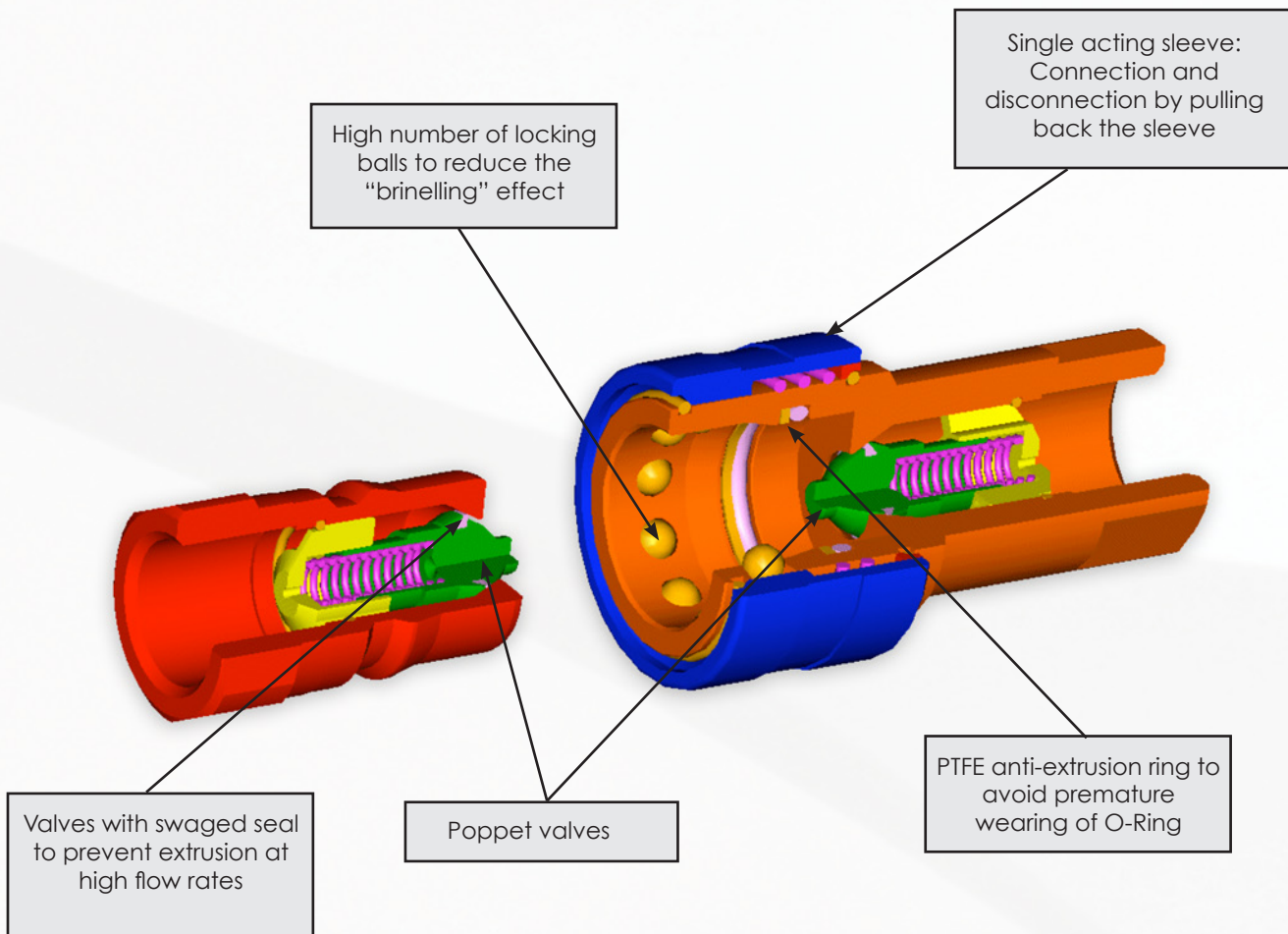


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A CONSTANT FLOW OF SOLUTIONS



## TECHNICAL FEATURES AND OPTIONS

- Interchangeability: ISO 7241-1 series "B"
- Valve system: Poppet valve
- Mechanical connection: Locking balls
- Connection system: Pulling back the sleeve and pushing one half towards the other
- Disconnection system: Pulling back the sleeve
- Connection with residual pressure: Not allowed
- Disconnection with residual pressure: Not allowed
- Threads available: BSP, NPT
- On request: Free flow version (no valving)
- Construction material: Brass
- Springs: AISI 302
- Balls: AISI 316
- Seals: standard in VITON
- Seals on request: NBR, EPDM
- Anti-extrusion rings: PTFE



## BENEFITS

- The poppet valve with elastomer seal provides maximum sealing of the couplings when disconnected.
- Shape of internal parts is designed to reduce turbulence and pressure drop.
- Superior corrosion resistance compared to zinc plating.
- Compact slim design.
- Simple to use.

## HOW TO USE

- Before connecting clean the mating parts of the couplings to avoid contamination in the circuit.
- To couple pull back the sleeve of the female coupling, align the female with the male coupling and push one into the other until both halves are fully connected and release the sleeve.
- To uncouple pull back the sleeve of the female coupling, pull out the mating half.

## WARNING!

- Do not couple-uncouple with flow and/or pressure in the circuit.
- Use protection whenever connecting or disconnecting with high temperature (max. allowed 80°C, 176 °F).

## PERFORMANCE

Description	Size	ISO Size	Rated flow		Max. flow suggested		Connect force		Disconnect force		Spillage *
	Inch	mm	l/min	GPM	l/min	GPM	N	lbf	N	lbf	ml
IRBO18	1/8	5,0	3	0,80	6	1,59	75	16,88	35	7,88	0,18
IRBO14	1/4	6,3	12	3,18	24	6,36	60	13,50	30	6,75	0,33
IRBO38	3/8	10,0	23	6,10	46	12,19	95	21,38	35	7,88	2,20
IRBO12	1/2	12,5	45	11,93	90	23,85	95	21,38	35	7,88	3,00
IRBO34	3/4	20,0	74	19,61	148	39,22	125	28,13	40	9,00	9,40
IRBO100	1	25,0	100	26,50	200	53,00	140	31,50	40	9,00	14,00

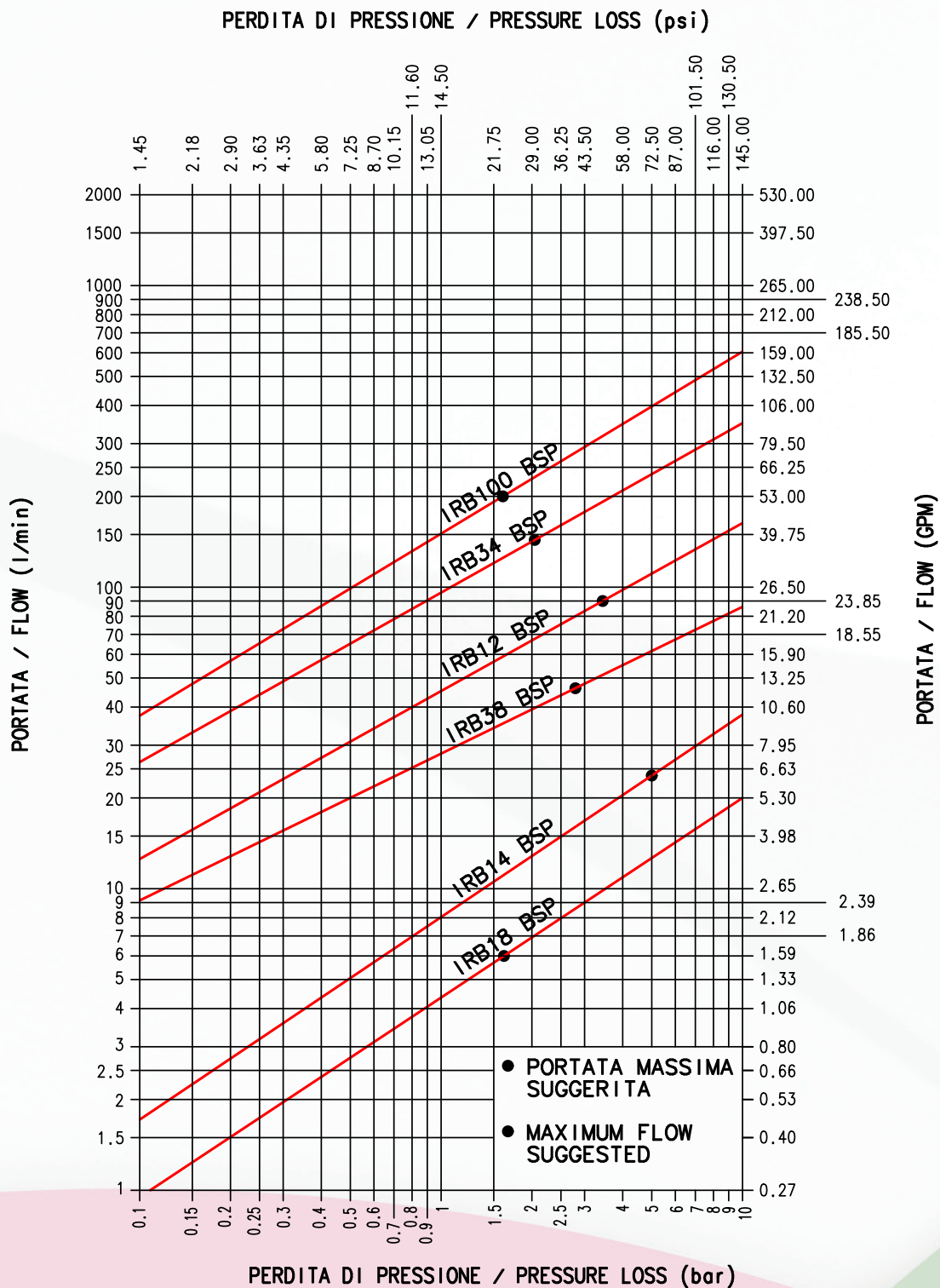
Description	Max. operating pressure						Burst pressure					
	Coupled		Male		Female		Coupled		Male		Female	
	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
IRBO18	20	2900	20	2900	20	2900	100	14500	100	14500	100	14500
IRBO14	20	2900	20	2900	20	2900	100	14500	100	14500	100	14500
IRBO38	16	2320	16	2320	16	2320	80	11600	70	10150	80	11600
IRBO12	16	2320	16	2320	16	2320	80	11600	70	10150	80	11600
IRBO34	12,5	1813	12,5	1813	12,5	1813	60	8700	45	6525	60	8700
IRBO100	10	1450	10	1450	10	1450	40	5800	40	5800	40	5800

\* Spillage is an indicative value of the fluid loss per couple-uncouple cycle.

- Temperature range:
  - Standard seals VITON: from -15°C to +180°C ( from +5 °F to +356 °F).
  - NBR (Nitrile) seals: from -20 °C to +100 °C ( from -4 °F to +212 °F).
  - EPDM (Ethylene Propylene) seals: from -40°C to +150°C ( from -40 °F to +302 °F).

## PRESSURE DROP

TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2  
TESTS IN ACCORDANCE WITH ISO 7241-2



FLUIDO: OLIO ISO VG32  
TEMPERATURA: 40°C  
VISCOSITA': 28.8-35.2 mm<sup>2</sup>/s

FLUID: OIL ISO VG32  
TEMPERATURE: 40°C  
VISCOSITY: 28.8-35.2 mm<sup>2</sup>/s

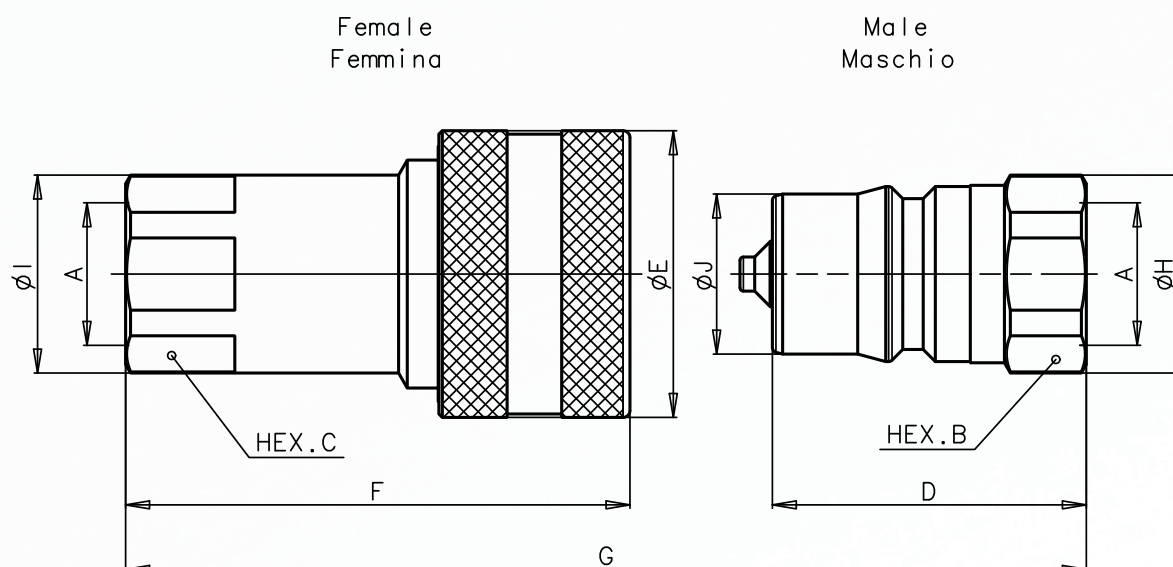


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## OVERALL DIMENSIONS



## FEMALE BSPP THREAD (DIN 3852)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IRBO18 BSP	1/8	mm Inch	14 0,55	14 0,55	30 1,18	23 0,91	48,8 1,92	60,5 2,38	15,8 0,62	15,8 0,62	10,8 0,43	Kg lb	0,018 0,04	0,069 0,15
IRBO14 BSP	1/4	mm Inch	19 0,75	19 0,75	35 1,38	27 1,06	57 2,24	70,7 2,78	20,8 0,82	21,2 0,83	14,2 0,56	Kg lb	0,038 0,08	0,131 0,29
IRBO38 BSP	3/8	mm Inch	24 0,94	24 0,94	41 1,61	34 1,34	66 2,60	82,7 3,26	26 1,02	27 1,06	19,1 0,75	Kg lb	0,072 0,16	0,236 0,52
IRBO12 BSP	1/2	mm Inch	27 1,06	27 1,06	46 1,81	42 1,65	73,9 2,91	92,6 3,65	29 1,14	29 1,14	23,5 0,93	Kg lb	0,110 0,24	0,344 0,76
IRBO34 BSP	3/4	mm Inch	36 1,42	36 1,42	55 2,17	50 1,97	90,1 3,55	111,1 4,37	38,5 1,52	38,5 1,52	31,4 1,24	Kg lb	0,218 0,48	0,605 1,33
IRBO100 BSP	1	mm Inch	41 1,61	41 1,61	66 2,60	60 2,36	106,2 4,18	133,2 5,24	44,8 1,76	44,8 1,76	37,7 1,48	Kg lb	0,353 0,78	0,926 2,04

## FEMALE NPT THREAD (ANSI B.1.20.3)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
IRBO18 NPT	1/8	mm Inch	14 0,55	14 0,55	30 1,18	23 0,91	48,8 1,92	60,5 2,38	15,8 0,62	15,8 0,62	10,8 0,43	Kg lb	0,020 0,04	0,075 0,17
IRBO14 NPT	1/4	mm Inch	19 0,75	19 0,75	35 1,38	27 1,06	57 2,24	70,7 2,78	20,8 0,82	21,2 0,83	14,2 0,56	Kg lb	0,040 0,09	0,130 0,29
IRBO38 NPT	3/8	mm Inch	24 0,94	24 0,94	41 1,61	34 1,34	66 2,60	82,7 3,26	26 1,02	27 1,06	19,1 0,75	Kg lb	0,075 0,17	0,230 0,51
IRBO12 NPT	1/2	mm Inch	27 1,06	27 1,06	46 1,81	42 1,65	73,9 2,91	92,6 3,65	29 1,14	29 1,14	23,5 0,93	Kg lb	0,115 0,25	0,345 0,76
IRBO34 NPT	3/4	mm Inch	36 1,42	36 1,42	55 2,17	50 1,97	90,1 3,55	111,1 4,37	38,5 1,52	38,5 1,52	31,4 1,24	Kg lb	0,220 0,49	0,605 1,33
IRBO100 NPT	1	mm Inch	41 1,61	41 1,61	66 2,60	60 2,36	106,2 4,18	133,2 5,24	44,8 1,76	44,8 1,76	37,7 1,48	Kg lb	0,360 0,79	0,940 2,07

## PROTECTION CAPS FOR BIR, IR-V AND IR SERIES

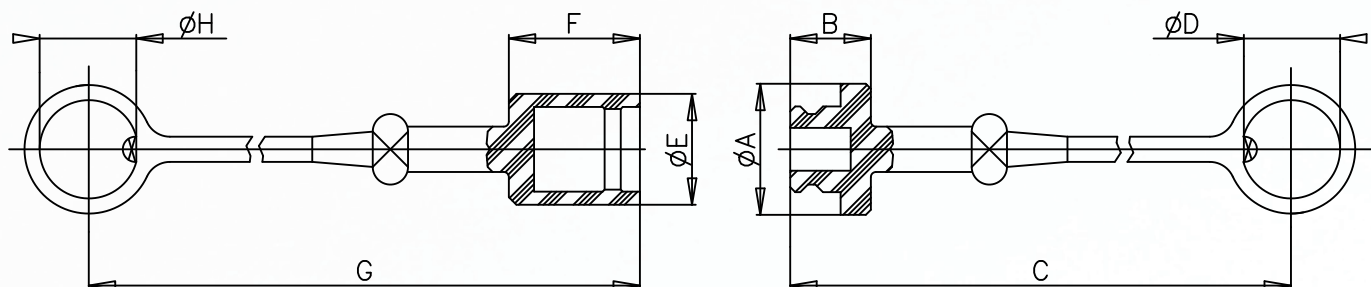
Protective caps are always recommended to protect the couplings from damage or dirt inclusion, and increase the product life. This is particularly important in mobile applications where contamination can enter the coupling and compromise the function. The caps for BIR, IR-V and IR series are manufactured in PVC rubber and they are available in several colors.



## OVERALL DIMENSIONS PROTECTION CAPS FOR "BIR" SERIES

CAP FOR MALE COUPLING  
Tappo per innesto maschio

CAP FOR FEMALE COUPLING  
Tappo per innesto femmina



### PVC CAPS

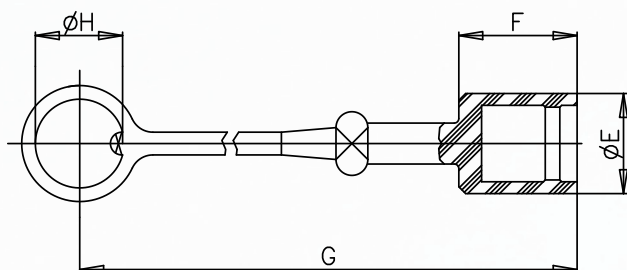
- Available in following colors: Red, yellow, blue, black and green.
- Temperature range: from -20 °C to +100 °C ( from -4 °F to +212 °F).

Description	Coupling	Unit	A	B	C	D	E	F	G	H	Unit	Weight
T.M.B. 1/4	F-BIR14	mm	20	16	223	19,5	-	-	-	-	Kg	0,014
		Inch	0,79	0,63	8,78	0,77	-	-	-	-	lb	0,03
T.F.B. 1/4	M-BIR14	mm	-	-	-	-	18	23	230	19,5	Kg	0,013
		Inch	-	-	-	-	0,71	0,91	9,06	0,77	lb	0,03
T.M.B. 3/8	F-BIR38	mm	26	16	223	22,5	-	-	-	-	Kg	0,018
		Inch	1,02	0,63	8,78	0,89	-	-	-	-	lb	0,04
T.F.B. 3/8	M-BIR38	mm	-	-	-	-	24	27	234	22,5	Kg	0,015
		Inch	-	-	-	-	0,94	1,06	9,21	0,89	lb	0,03
T.M. 1/2	F-BIR12	mm	33	20	273	28	-	-	-	-	Kg	0,020
	F-IR12	Inch	1,30	0,79	10,75	1,10	-	-	-	-	lb	0,04
T.F. 1/2	M-BIR12	mm	-	-	-	-	29	32	239	28	Kg	0,022
	M-IR12	Inch	-	-	-	-	1,14	1,26	9,41	1,10	lb	0,05
T.M.B. 3/4	F-BIR34	mm	40	19	266	32	-	-	-	-	Kg	0,025
		Inch	1,57	0,75	10,47	1,26	-	-	-	-	lb	0,06
T.F.B. 3/4	M-BIR34	mm	-	-	-	-	36	41	288	32	Kg	0,027
		Inch	-	-	-	-	1,42	1,61	11,34	1,26	lb	0,06
T.M.B. 1	F-BIR100	mm	45	24	271	38	-	-	-	-	Kg	0,040
		Inch	1,77	0,94	10,67	1,50	-	-	-	-	lb	0,09
T.F.B. 1	M-BIR100	mm	-	-	-	-	42	48	295	38	Kg	0,037
		Inch	-	-	-	-	1,65	1,89	11,61	1,50	lb	0,08

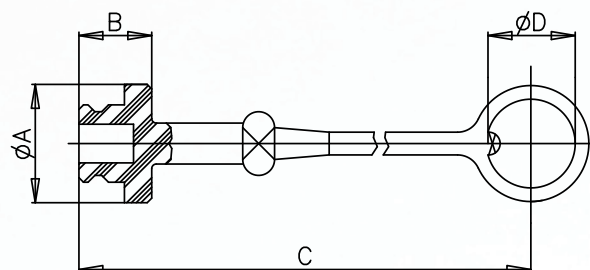


## OVERALL DIMENSIONS PROTECTION CAPS FOR IR-V AND IR SERIES

CAP FOR MALE COUPLING  
Tappo per innesto maschio



CAP FOR FEMALE COUPLING  
Tappo per innesto femmina



### PVC CAPS

- Available in following colors: Red, yellow, blue, black and green.
- Temperature range: from -20 °C to +100 °C ( from -4 °F to +212 °F).

Description	Coupling	Unit	A	B	C	D	E	F	G	H	Unit	Weight
T.M. 1/4	F-IR14 F-IR14V	mm Inch	26 1,02	16 0,63	223 8,78	19,5 0,77	- -	- -	- -	- -	Kg lb	0,018 0,04
T.F. 1/4	M-IR14 M-IR14V	mm Inch	- -	- -	- -	- 0,87	22 1,02	26 9,17	233 9,17	19,5 0,77	Kg lb	0,017 0,04
T.M. 3/8	F-IR38 F-IR38V	mm Inch	30 1,18	18 0,71	225 8,86	25,5 1,00	- -	- -	- -	- -	Kg lb	0,032 0,07
T.F. 3/8	M-IR38 M-IR38V	mm Inch	- -	- -	- -	- 1,06	27 1,14	29 9,29	236 9,29	25,5 1,00	Kg lb	0,024 0,05
T.M. 1/2	F-IR12 F-BIR12	mm Inch	33 1,30	20 0,79	273 10,75	28 1,10	- -	- -	- -	- -	Kg lb	0,020 0,04
T.F. 1/2	M-IR12 M-BIR12	mm Inch	- -	- -	- -	- 1,14	29 1,26	32 9,41	239 9,41	28 1,10	Kg lb	0,022 0,05
T.M. 3/4	F-IR34 F-IR34V	mm Inch	40 1,57	25 0,98	272 10,71	32 1,26	- -	- -	- -	- -	Kg lb	0,024 0,05
T.F. 3/4	M-IR34 M-IR34V	mm Inch	- -	- -	- -	- 1,38	35 1,65	42 11,38	289 11,38	32 1,26	Kg lb	0,019 0,04
T.M. 1	F-IR100 F-IR100V	mm Inch	44 1,73	24 0,94	271 10,67	38 1,50	- -	- -	- -	- -	Kg lb	0,041 0,09
T.F. 1	M-IR100 M-IR100V	mm Inch	- -	- -	- -	- 1,57	40 1,85	47 11,57	294 11,57	38 1,50	Kg lb	0,037 0,08

## TECHNICAL FEATURES AND TERMS GLOSSARY

### **Interchangeability**

Possibility of male coupling half or female coupling half to connect with the other brands of couplings.

### **Valve system**

Type of valve used to shut-off medium flow from the male and female coupling half when disconnected.

### **Mechanical connection**

Method or type of connection that creates retention between the male coupling half with female coupling half.

### **Size**

Nominal size of coupling body.

### **ISO Size**

Size indicated by ISO standard (the International Organization for Standardization) related to interchangeability of the couplings.

### **Rated flow**

Typical rated flow relative to the size, in according with ISO 7241-2 standard.

### **Max. flow suggested**

Max. flow suggested by Stucchi S.p.A.

### **Connect force**

Value of force required to connect the couplings without residual pressure in the system.

### **Disconnect force**

Value of force required to disconnect the couplings without residual pressure in the system.

### **Connect torque**

Value of torque required to connect the couplings without residual pressure in the system.

### **Disconnect torque**

Value of torque required to disconnect the couplings without residual pressure in the system.

### **Spillage**

Indicative value of the fluid loss per couple - uncouple cycle without residual pressure. Checked on sample in according with ISO 7241-2 test method.

### **Max. operating pressure**

The maximum peak of pressure which can be used the product.

### **Burst pressure**

Value of pressure at which a coupling loses its ability to retain pressure.

### **Max. residual pressure during connection**

Max. residual pressure trapped in the circuit where the coupler is allowed to connect.

### **Max. residual pressure during disconnection**

Max. residual pressure trapped in the circuit where the coupler is allowed to disconnect.

### **Tightening torque**

For screw couplings it is the torque value to which the male coupling half is to be connected with the female coupling half.

### **Coupled**

Male coupling half connected with the female coupling half.

### **Male**

Male coupling half uncoupled.

### **Female**

Female coupling half uncoupled.

### **Temperature range**

Temperature range which can be used the product.

### **Pressure drop**

Pressure lost between the inlet and outlet of the coupling.

### **Brinelling**

Markings of the locking balls on the metallic parts where they are in contact.

## SEALS AND RELATIVE TEMPERATURE RANGE

Seal compound	Temperature range Celsius degrees °C	Temperature range Fahrenheit degrees °F
NBR (Nitrile)	-20 +100	-4 +212
VITON	-15 +180	+5 +356
EPDM (Ethylene Propylene)	-40 +150	-40 +302
KALREZ	-25 +300	-13 +572
HNBR	-30 +130	-22 +266
FLUOROSILICONE	-50 +150	-58 +302
SILICONE	-50 +150	-58 +302
NEOPRENE	-40 +100	-40 +212
PTFE (Teflon)	-50 +180	-58 +356

The above temperatures are indicative and can change due to the fluid used.  
For the correct choice of the seal, we suggest you to consult the Stucchi customer service.

## CONVERSION FACTORS FROM INTERNATIONAL SYSTEM (SI) TO ANGLO SAXON SYSTEM (USA)

Characteristics	International system SI	Anglo Saxon system USA	Trasformation from SI to USA	Trasformation from USA to SI
PRESSURE	Mega Pascal (MPa) 1 MPa = 10 bar	Pound/Square Inch (psi)	1 Mpa = 145psi	1 psi = 0,0069 Mpa
FLOW IN HYDRAULIC	Liter per minute (l/min)	Gallon per minute (GPM)	1 l/min = 0,265 GPM	1 GPM = 3,78 l/min
FORCE	Newton (N)	Pound force (lbf)	1 N = 0,225 lbf	1 lbf = 4,444 N
TORQUE	Newton meter (Nm)	Pound force x Foot (lbf ft)	1 Nm = 0,737 lbf ft	1 lbf ft = 1,357 Nm
TEMPERATURE	Celsius degree (°C)	Fahrenheit degree (°F)	°C = (°F-32)/1,8	°F = (°Cx1,8)+32
LENGTH	Millimeter (mm) Meter (m)	Inch (Inch) Foot (ft)	1mm = 0,03937 Inch 1 m = 3,28084 ft	1 Inch = 25,4 mm 1 ft = 0,3048 m
WEIGHT	Kilogram (kg)	Pound (lb)	1 Kg = 2,2046 lb	1 lb = 0,4536 Kg

NOTES

















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