

Multicouplings for Eutectic System

SPECIAL SERIES



Eutectic systems are mounted on the vehicles used for the **transport of frozen and fresh products**.

This system identifies the technology according to which the **cold is accumulated by charging with an electric-operated refrigerating unit** (compressor) that freezes the plates containing the eutectic solution. The defrosting solution then releases the previously accumulated “cold”, thus compensating for the thermal dispersion of the bodywork, preserving the food products in compliance with the regulations.

The **main advantage of the eutectic system** compared to the convectional refrigeration of the ventilated type is that to cool it does not need to have the engines turned on to run the compressor.

The **couplings are used to connect the compressor to the vehicle during the charging phase**, which typically takes place at night while during the day the vehicle is on the road for the delivery of the products.

The multicoupling has two couplings: one for the inlet line (pressure) and one for the return line (suction) and have the function of circulating the refrigerant gas inside the system. In addition to the refrigerant conduction couplings, there is also the electrical connection which has the function of activating very low voltage signals / instruments (24V max).

The stucchi solution for Eutectic system

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Thanks to the multicoupling these **three main lines are connected and disconnected simultaneously** by a single and quick movement.

The use of the quick coupling allows the compressor to be removed from the van with its weight, therefore it allows to add weight of food product to be delivered or at the same load, to **consume less energy**.

Thanks to its vast experience with vehicle manufacturers, Stucchi is able to propose **specific solution for the Eutectic systems**: two multicouplings configured with two couplings (pressure and suction) and electrical connector.

DP3 1A-1B-1EC

GR4 1B-1D-1EC

These models have the following characteristics:

- **Special Flat Face couplings** designed for refrigerant gases (R404A - R452A - R507) that ensure a minimal gas loss after the disconnection of the multicoupling.
- **Predisposition for heater resistance** avoiding icing of the couplings during the charge process.
- Predisposition for **sensor that allows to block the vehicle** when it is being charged.
- **Predisposition for indexator pin** in order to always use the same multi fix with the same multi-mobile and therefore keep the same amount of gas in the circuit.

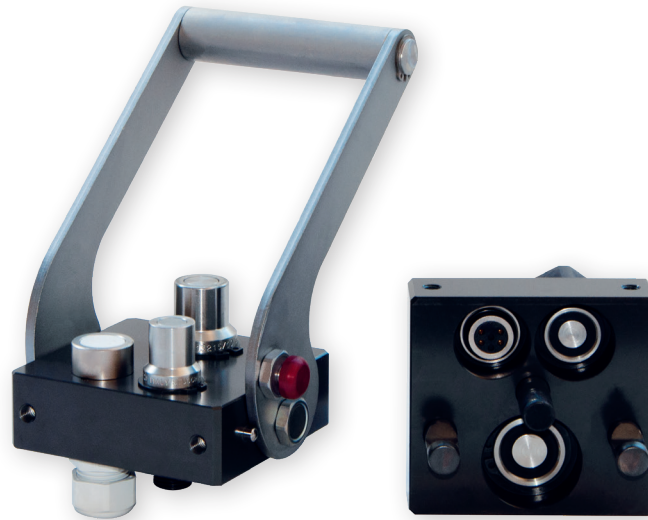
The fixed multicoupling with male couplings is mounted on the vehicle while the mobile multicoupling with female couplings is on the compressor.

When the multicoupling is disconnected the fixed part is protected by a metal cap that ensure a good resistance to the severe condition existing on the roads. While the mobile part can be easily parked on its parking station located on the compressor.



DP3 1A-1B-1EC

SPECIAL SERIES



FAQ9 (A) 3/8"	FAQ13 (B) 1/2"	FAQ15 (C) 5/8"	FAQ17 (D) 3/4"	FAQ21 (E) 1"	FAQ30 (G) 1-1/2"	EC instead of DN9 or DN13
1	1					1

Technical specifications and options



Interchange
Stucchi profile (only with Stucchi multicouplings)



Sealing
Ethylene
Propylene EPDM



Available sizes
3/8" - 1/2"



Material
Aluminium, Carbon steel,
Stainless steel



Valving style
Flat face



Connection Under Pressure
Not Allowed



Operating pressure
Up to 30 bar



Locking mechanism
Pin, Cam



Temperature
-40°C / +80°C



Connection system
Lever



Available threads
ORFS



Flow rate
na

Benefits

- Simultaneous connection and disconnection of the two lines for refrigerant gas and the electrical connector by a single and quick movement.
- Special Flat Face couplings designed for refrigerant gases (R404A - R452A - R507) ensure a minimal gas loss after the disconnection of the multicoupling.
- No risk of misalignment or misconnection thanks to guidance pins design.
- Central pin with hole where is possible to integrate the cartridge heater in order to keep the multicoupling unfrozen during the recharge process.
- Good resistance to the severe condition existing on the roads.
- Couplings mounted with Snap Rings for ease of installation and replacement.
- Compact slim design.
- Safe and simple to use.

Main applications

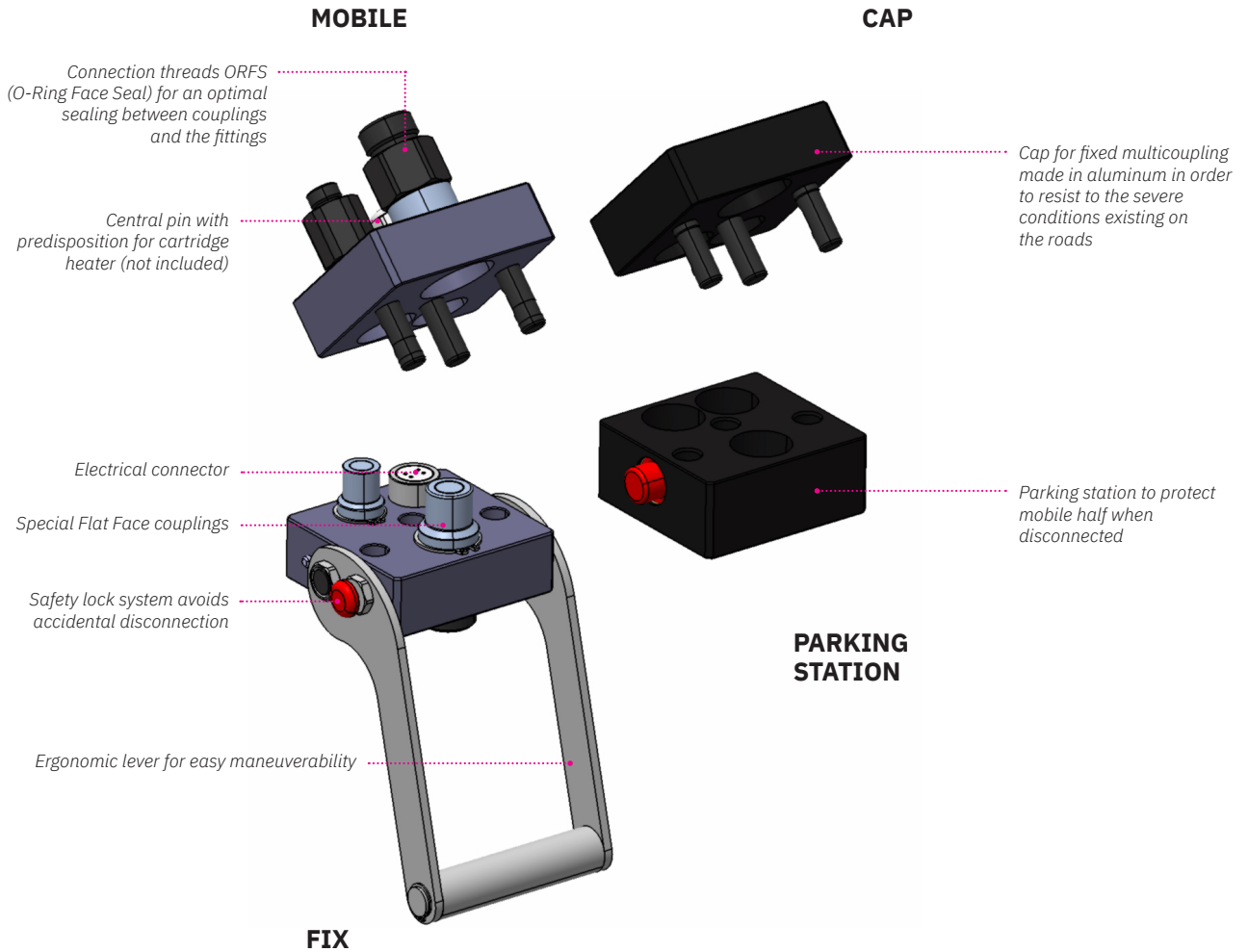


DP3 1A-1B-1EC

SPECIAL SERIES



Features



Performances

Size	Series	Max. operating pressure					
		Coupled		Male		Female	
Inch		MPa	psi	MPa	psi	MPa	psi
3/8	FAQR9D	3	435	3	435	3	435
1/2	FAQR13	3	435	3	435	3	435

Temperature range: Special seals EPDM -40°C to + 80°C (from -40 °F to + 176 °F).

Other threads available upon request.

DP3 1A-1B-1EC

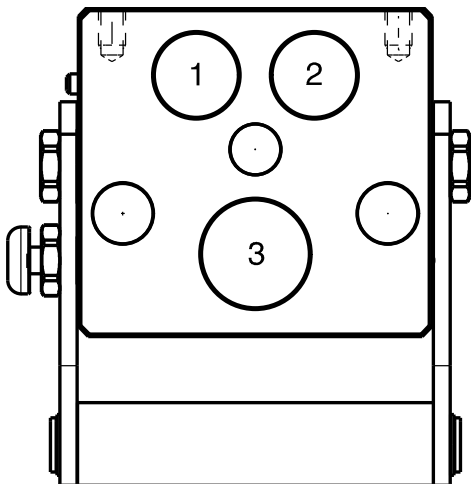
SPECIAL SERIES



Installation, use and maintenance

- Install the fixed multicoupling with the proper fixing holes, by referring to the drawing shown in the datasheet.
- Install the flexible hoses on the couplings of the fixed and mobile multicoupling, by screwing them with proper torque.
- Install the electrical connector following the proper instruction (see Stucchi Multicoupling Catalog) and fix the cartridge heater into the central pin.
- Before connecting, clean the flat mating surface of the couplings to avoid inclusion of dirt in the circuit.
- Insert the guidance pins of the mobile multicoupling into the holes of the fixed multicoupling and move the mobile half till the contact of the couplings faces.
- Act on the handle turning the lever in the direction if the fixed multicoupling.
- Continue to rotate till the safety lock (red button) automatically engage itself.
- Now the multicoupling is coupled and ready to work.
- When the mobile is connected with fixed multicoupling, the cap can be easily parked in the parking station.
- To disconnect push the red safety button and at the same time act on the handle turning the lever in the direction of the mobile multicoupling.
- Continue to rotate till the mechanical stop of the levers. Now the multicoupling is uncoupled and it is possible to pull out the mobile half.
- After disconnecting, clean the parts and apply the cap on the fixed part, then park the mobile part in the parking station in order to protect it.
- Clean frequently the multicoupling and the components using sweet water or compressed air. Don't use aggressive substances that could damage the seals.
- Keep the internal circuit lubricated with the proper lubricant (Polyester oil-POE) and lubricate (use only Silicon grease) also the guidance pins to improve the connection-disconnection movement.
- Check periodically the multiconnection by looking for leakage, damage or malfunctioning.

Configurations



Possible configurations

Position	Coupling Size	Predisposition for electrical connector
1	FAQR9D	-
2	EC	YES
3	FAQR13	-

DP3 1A-1B-1EC

SPECIAL SERIES



Plates and spare parts

Multicoupling (couplings included)

Code	Name	Description
870009012	MULTI COMPLETE DP3 1A-1B-1EC	1 FAQR9D 3/8 ORFS - 1 FAQR13 3/4 ORFS - 1 EC4 - CAP

Multicoupling spare parts (couplings not included)

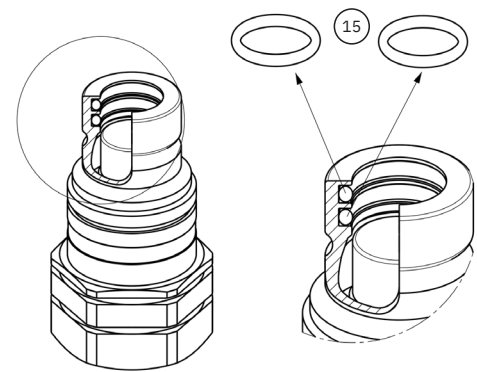
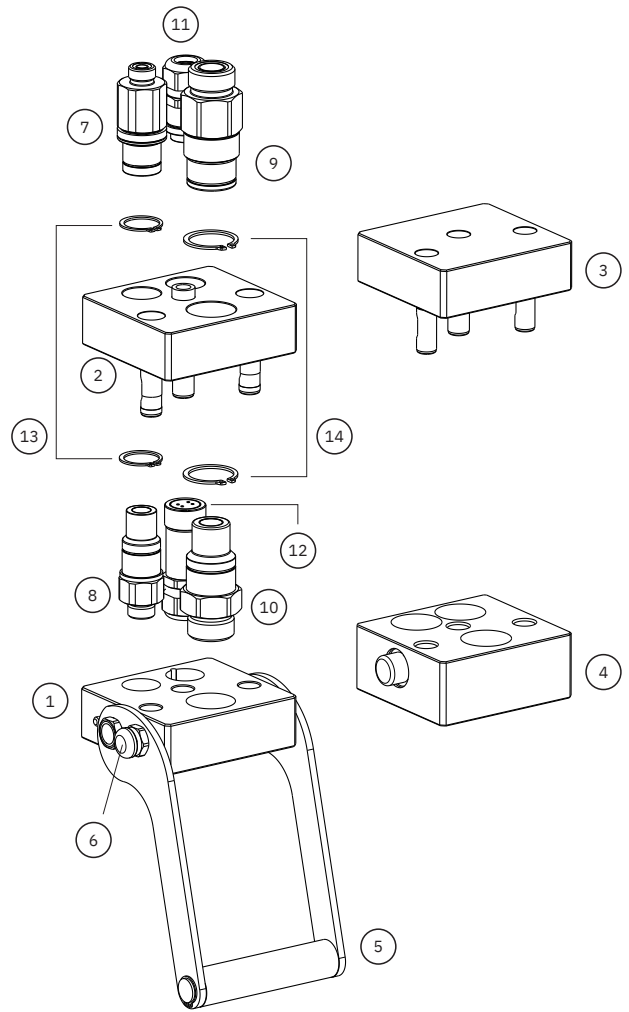
Code	Name	Key
806000356	MULTI FIX EMPTY DP3 1A-1B-1EC	1
806000367	MULTI MOBILE EMPTY DP3 1A-1B-1EC V01	2
815606276	CAP FIX MULTICOUPLING DP 105x98	3
815606277	PARKING STATION MOBILE MULTICOUPLING DP 105x98	4
815701081	SPARE KIT LEVER GROUP DP 170x121	5
815701090	SPARE KIT SAFETY BUTTON DP	6

EC with crimped cable available upon request

Couplings spare parts

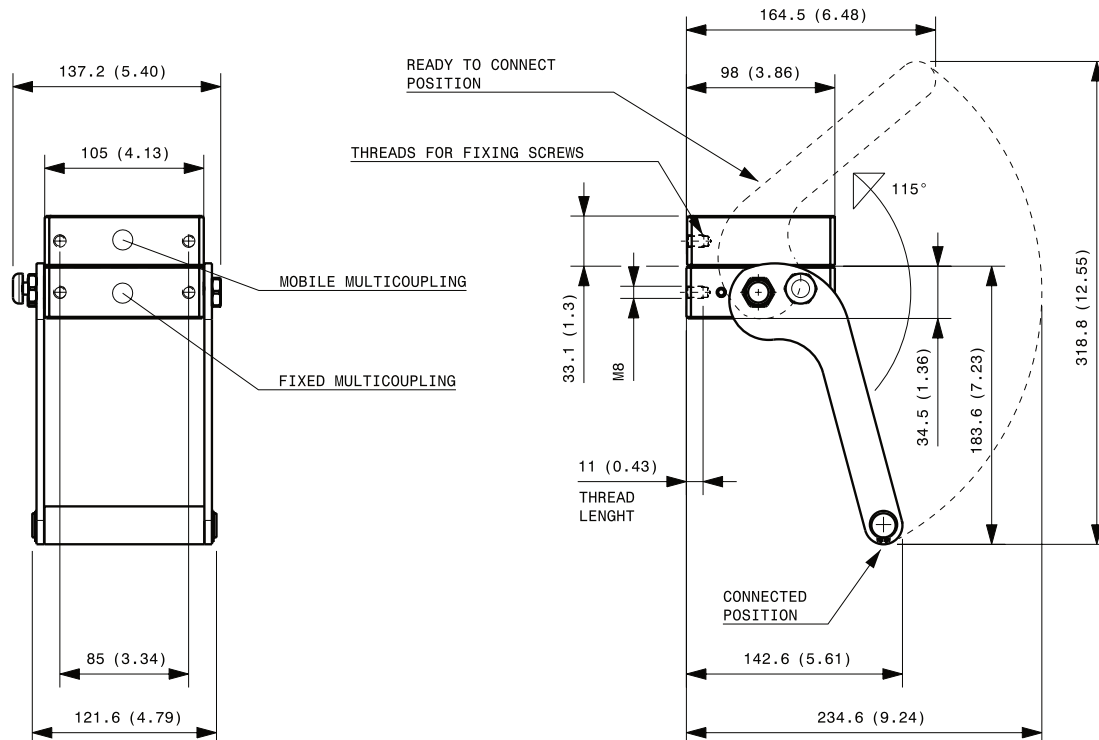
Code	Name	Key
806313212*	F FAQR9D 3/8 ORFS	7
806313213*	M FAQR9D 3/8 ORFS	8
806313214*	F FAQR13 3/4 ORFS	9
806313215*	M FAQR13 3/4 ORFS	10
806422016	F EC4	11
806422015	M EC4DT	12
815701033	SET OF 10 SEEGER FOR PLUG FAP-FAQ9	13
815701034	SET OF 10 SEEGER FOR PLUG FAP-FAQ13	14
815701071	SET OF 10 OR EPDM M FAQ9E	15
815701073	SET OF 10 OR EPDM M FAQ13E	15

* Seeger ring is not included in the female and male couplings; seeger ring to be ordered separately.

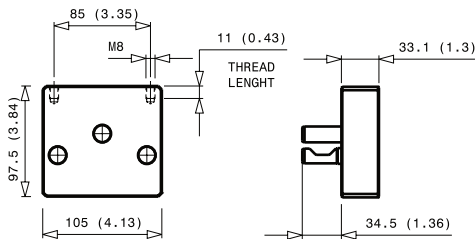


Plates and spare parts

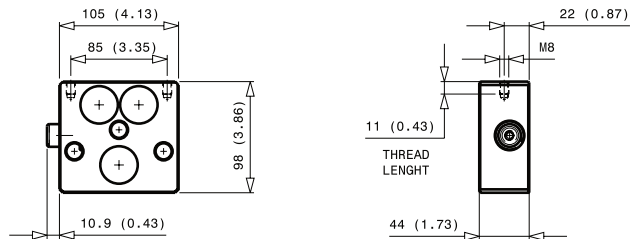
Fixed and mobile multicoupling



Cap for fix multicoupling



Parking station for mobile multicoupling



Dimensions in mm (inches)

⚠ WARNINGS

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

Never connect or disconnect when the compressor is working and there is pressure in the circuit.

Apply to the multicoupling the proper heater resistance in order to avoid the creation of the ice during the operation. Do not disconnect in case there is presence of ice.

It is important to limit contamination in the circuit to avoid compromising the function of the internal valves.

Make sure that the medium used in the circuit is only that indicated in this document (refrigeration gases R404A - R452A - R507 and lubricant oil POE). Others medium can damage the seals.

Do not force the lever without pushing the red safety button.

Do not use extensions or other tools to ease the rotating of the lever.

Do not connect the fixed half with the mobile half if dirt or tools are between them.

Pay attention during the connection not to put finger between the plates.

When the multicoupling is disconnected, it is suggested to use the protection cover for the fixed half and the parking station for the mobile half.

Do not to modify, disassemble or damage the multiconnection, part of it or coupling/electrical connector, the lever or safety lock system.

Stucchi Multicoupling above described is intended to be used for refrigerant gas only: do not use the products for dangerous, inflammable or explosive fluid or gas.

The quick coupling FAQ series is intended to be used only on Stucchi Multicouplings. Do not use the FAQ couplings on a Custom-made multiconnection or other device different than a Stucchi Multicouplings.

In case of doubt please contact Stucchi Technical Support.

It is MANDATORY to read and closely follow the instructions. Last updated version always applies at time of installation, see latest Instructions and warnings on Stucchi website (English version: www.stucchi.com/en) before selecting or using Stucchi products.

GR4 1B-1D-1EC

SPECIAL SERIES



FAQ9 (A) 3/8"	FAQ13 (B) 1/2"	FAQ15 (C) 5/8"	FAQ17 (D) 3/4"	FAQ21 (E) 1"	FAQ30 (G) 1-1/2"	EC instead of DN9 or DN13
	1		1			1

Technical specifications and options



Interchange
Stucchi profile (only with Stucchi multicouplings)



Sealing
Ethylene
Propylene EPDM



Available sizes
1/2" - 3/4"



Material
Brass, Carbon steel,
Stainless steel



Valving style
Flat face



Connection Under Pressure
Not Allowed



Operating pressure
Up to 30 bar



Locking mechanism
Pin, Cam



Temperature
-40°C / +80°C



Connection system
Lever



Available threads
ORFS



Flow rate
na

Benefits

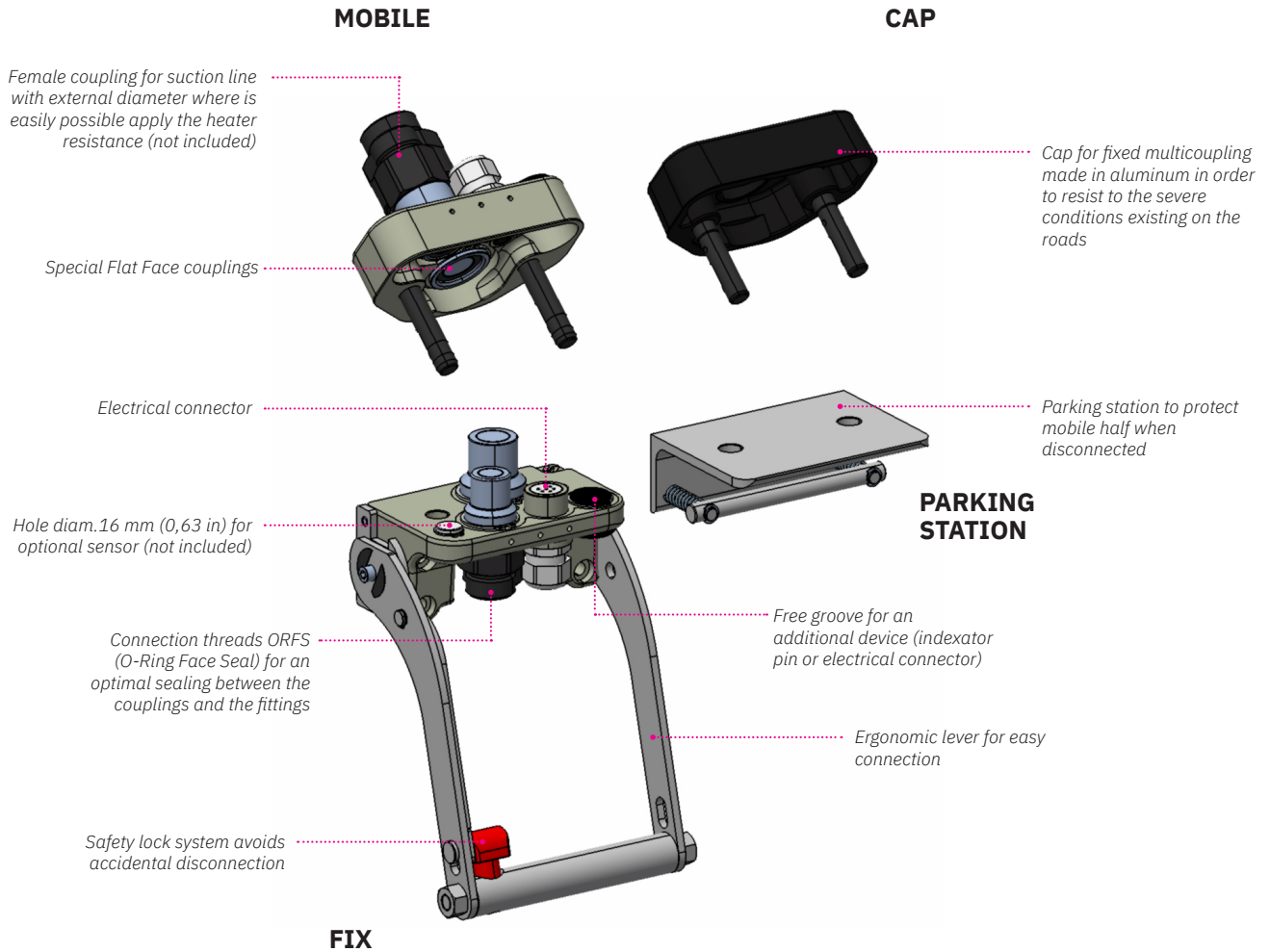
- Simultaneous connection and disconnection of the two lines for refrigerant gas and the electrical connector by a single and quick movement.
- Special Flat Face couplings designed for refrigerant gases (R404A - R452A - R507) ensure a minimal gas loss after the disconnection of the multicoupling.
- The multicoupling has the predisposition to add additional devices such as a sensor, another electrical connector or a indextor pin.
- The safety button located directly on the handle allows the operator to operate with one hand while with the other can hold the mobile part.
- No risk of misalignment or misconnection thanks to guidance pins design.
- Female coupling for suction line with external diameter where can be easily apply a heater resistance in order to keep the multicoupling unfrozen during the recharge process.
- Good resistance to the severe condition existing on the roads.
- Couplings mounted with Snap Rings for ease of installation and replacement.
- Safe and simple to use.

Main applications



GR4 1B-1D-1EC

SPECIAL SERIES



Performances

Size	Series	Max. operating pressure					
		Coupled		Male		Female	
Inch		MPa	psi	MPa	psi	MPa	psi
1/2	FAQR13	3	435	3	435	3	435
3/4	FAQR17	3	435	3	435	3	435

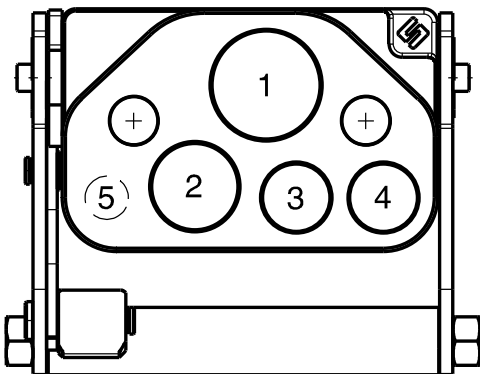
Temperature range: Special seals EPDM -40°C to + 80°C (from -40 °F to + 176 °F).

Other threads available upon request.

Installation, use and maintenance

- Install the fixed multicoupling with the proper fixing holes, by referring to the drawing shown in the datasheet.
- Install the flexible hoses on the couplings of the fixed and mobile multicoupling, by screwing them with proper torque.
- Install the electrical connector following the proper instruction (see Stucchi Multicoupling Catalog) and assemble the heater around the female coupling of suction line.
- Before connecting, clean the flat mating surface of the couplings to avoid inclusion of dirt in the circuit.
- Insert the guidance pins of the mobile multicoupling into the holes of the fixed multicoupling and move the mobile half till the contact of the couplings faces.
- Push the red safety button to unlock the rotation of the lever, and in the same time act on the handle turning the lever in the direction of the fixed multicoupling.
- After a short rotation release the red button
- Continue to rotate till the safety lock automatically engage itself.
- Now the multicoupling is coupled and ready to work.
- When the mobile is connected with fixed multicoupling, the cap can be easily parked in the parking station.
- To disconnect push the red safety button and at the same time act on the handle turning the lever in the direction of the mobile multicoupling.
- After a short rotation release the red button.
- Continue to rotate till the mechanical stop of the levers. Now the multicoupling is uncoupled and it is possible to pull out the mobile half.
- After disconnecting, clean the parts and apply the cap on the fixed part, then park the mobile part in the parking station in order to protect it.
- Clean frequently the multicoupling and the components using sweet water or compressed air. Don't use aggressive substances that could damage the seals.
- Keep the internal circuit lubricated with the proper lubricant (Polyester oil-POE) and lubricate (use only Silicon grease) also the guidance pins to improve the connection-disconnection movement.
- Check periodically the multiconnection by looking for leakage, damage or malfunctioning.

Configurations



Possible configurations

Position	Coupling Size	Predisposition for electrical connector
1	FAQR17	-
2	FAQR13	-
3	EC	YES
4	EC	YES
5	*	-

* Holes diam.16 mm (0,65) for optional sensor.

GR4 1B-1D-1EC

SPECIAL SERIES



Plates and spare parts

Multicoupling (couplings included)

Code	Name	Description
870016040	MULTI COMPLETE GR4 1B-1D-1EC	1 FAQR13 3/4 ORFS - 1 FAQR17 1 ORFS - 1 EC6 - CAP

Multicoupling spare parts (couplings not included)

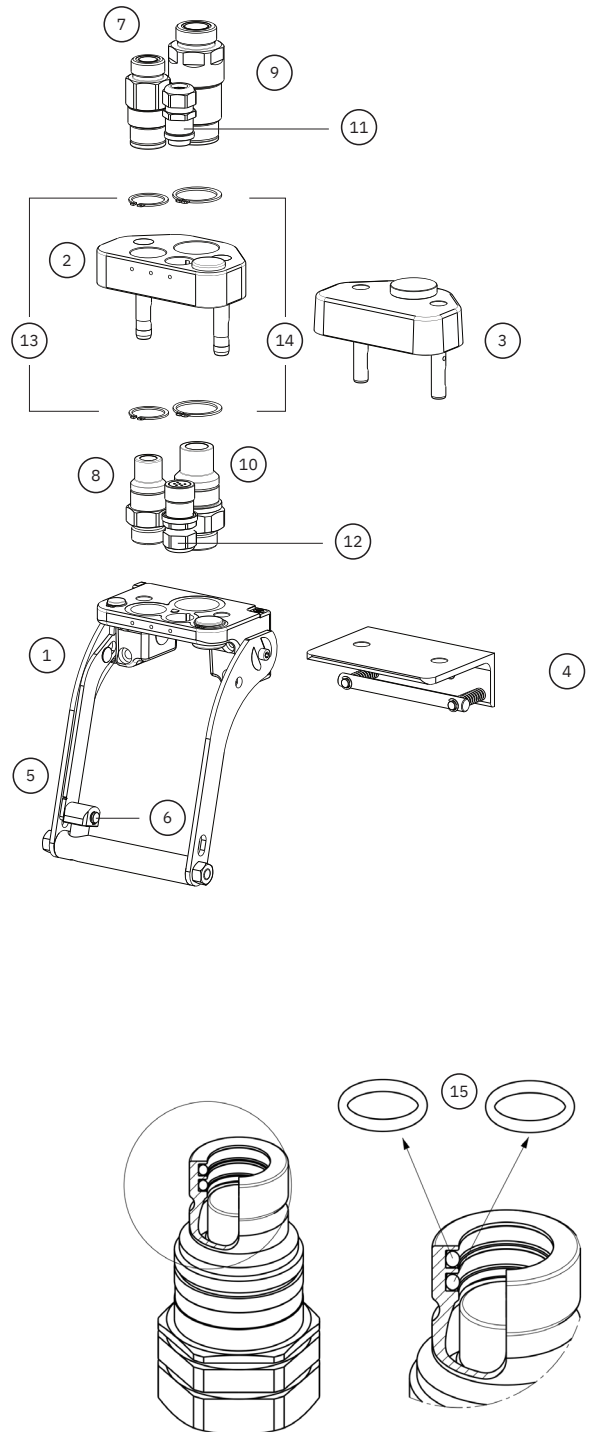
Code	Name	Key
806000280	MULTI FIX EMPTY GR4 2A-1B-1D-2EC	1
806000281	MULTI MOBILE EMPTY GR4 2A-1B-1D-2EC	2
815606244	CAP FIX MULTICOUPLING GR 139x90	3
815606249	PARKING STATION MOBILE MULTICOUPLING GR 140x100	4
815701052	SPARE KIT LEVER GROUP GR 200x176	5
815701079	SPARE KIT SAFETY BUTTON GR	6

EC with crimped cable available upon request

Couplings spare parts

Code	Name	Key
806313214*	F FAQR13 3/4 ORFS	7
806313215*	M FAQR13 3/4 ORFS	8
806313216*	F FAQR17 1 ORFS	9
806313217*	M FAQR17 1 ORFS	10
806422000	F EC6	11
806422007	M EC6D	12
815701034	SET OF 10 SEEGER FOR PLUG FAP-FAQ13	13
815701036	SET OF 5 SEEGER FOR PLUG FAP-FAQ17	14
815701073	SET OF 10 OR EPDM M FAQ13E	15
815701077	SET OF 10 OR EPDM M FAQ17E	15

* Seeger ring is not included in the female and male couplings; seeger ring to be ordered separately.



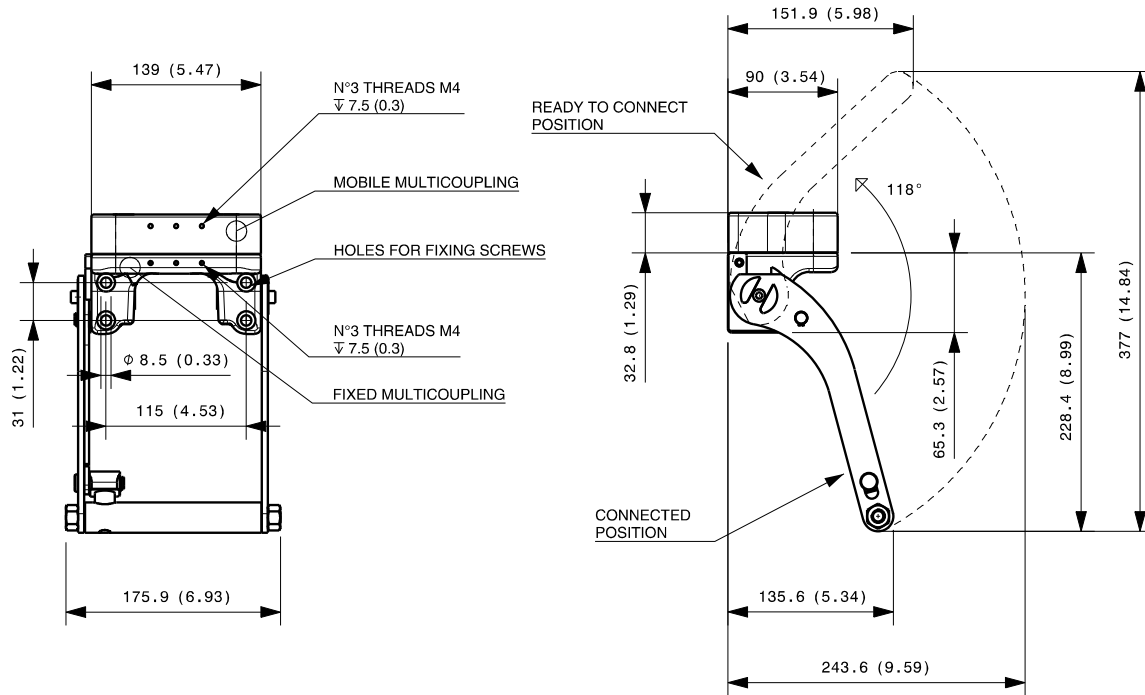
GR4 1B-1D-1EC

SPECIAL SERIES

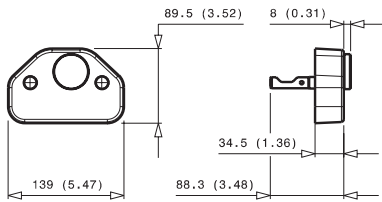


Plates and spare parts

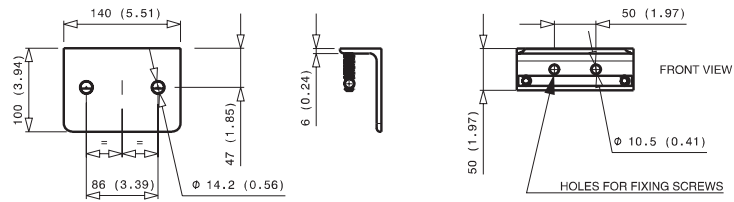
Fixed and mobile multicoupling



Cap for fix multicoupling



Parking station for mobile multicoupling



Dimensions in mm (inches)

⚠ WARNINGS

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Never connect or disconnect when the compressor is working and there is pressure in the circuit.
Apply to the multicoupling the proper heater resistance in order to avoid the creation of the ice during the operation. Do not disconnect in case there is presence of ice.
It is important to limit contamination in the circuit to avoid compromising the function of the internal valves.
Make sure that the medium used in the circuit is only that indicated in this document (refrigeration gases R404A - R452A - R507 and lubricant oil POE). Others medium can damage the seals.
Do not force the lever without pushing the red safety button.
Do not use extensions or other tools to ease the rotating of the lever.
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Pay attention during the connection not to put finger between the plates.
When the multicoupling is disconnected, it is suggested to use the protection cover for the fixed half and the parking station for the mobile half.
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