

# BM3 1A-2E-1EC

SPECIAL SERIES



FAP9 (A)	FAP13 (B)	FAP15 (C)	FAP17 (D)	FAP21 (E)	FAP30 (G)	EC
3/8"	1/2"	5/8"	3/4"	1"	1-1/2"	instead of DN9 or DN13
1 D				2 - special		1

## Technical specifications and options



**Interchange**  
Stucchi profile



**Sealing**  
Nitrile NBR



**Available sizes**  
1"



**Material**  
Aluminium, Carbon steel



**Valving style**  
Flat face



**Connection Under Pressure**  
Allowed with Easy CUP



**Operating pressure**  
up to 350 bar



**Locking mechanism**  
Pin, Cam



**Temperature**  
-20°C / +100°C



**Connection system**  
Lever



**Available threads**  
NPT



**Flow rate**  
up to 378 l/min

## Benefits

- Specifically designed to connect simultaneously two 1" lines: one pressure line and one return line which work by the flow reversal.
- The lever/cam system minimizes the force required to connect the couplings, even with significant pressure trapped in the circuit and under difficult conditions (environment, access, etc.).
- The locking mechanism ensures a full connection and prevents any accidental disconnection.
- Designed to be used with hydraulic oil for fluid power application.
- Safety system on the mobile plate avoids accidental falling during the disconnection.
- Special rubber seal prevents dirt inclusion.
- The additional service line can be used with optional electrical connector or one drain line FAP9D.
- Robust guidance pins guarantee the correct alignment before the connection.
- Parking station and cover plate protect the system from contamination and damage, as well as providing a convenient storage solution.
- Flat face couplings are easy to clean, reducing the inclusion of contamination to the hydraulic circuit.
- Internal valve design creates minimal pressure drop, maintaining circuit efficiency in the system.
- Minimal fluid loss during disconnection, reducing fluid loss to the environment.
- Minimal air inclusion during connection/disconnection.
- High resistance at impulse pressures.
- Safe and simple to use.

## Main applications



## Features

### MOBILE

Flat face design

Robust guidance pins guarantee the centering before connecting the couplings

Special seal to avoid dirt inclusion

Special internal valve to allow connection and disconnection with residual pressure

Removable handle

### FIX

Additional safety system to avoid falling during the disconnection

Ergonomic lever for easy connection and disconnection

### CAP

Integrated pins protections

Fixing holes

Optional support for removable lever

Special seal to avoid dirt inclusion

Safety lock system avoids accidental disconnection

### PARKING STATION

## Performances (with FAP21)

Size	Series	Max. flow suggested		Spillage*	Max. operating pressure					
					Coupled		Male		Female	
Inch		l/min	GPM	ml	MPa	psi	MPa	psi	MPa	psi
1	FAP21AS	378	100,17	0,1	42	6000	42	6000	42	6000

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

#### IMPORTANT

Both the couplings can work at the max. operating pressure, but in an alternating way: when one coupling is in pressure the other coupling shall be with no pressure (return line).

FAP9D line is only for drain line (max. operating pressure 1 Mpa).

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

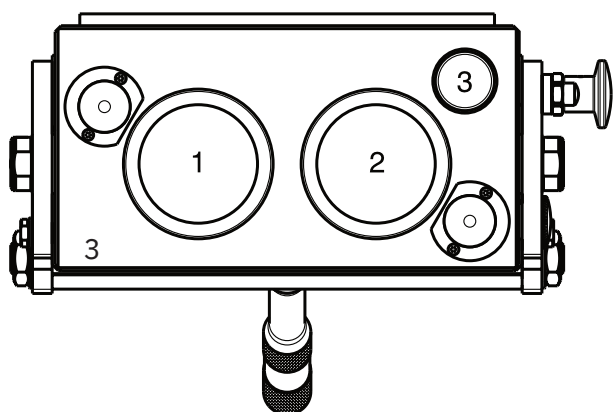
**Tests:** The couplings have been tested at max. operating pressure in accordance with ISO norm for 200.000 impulses coupled and 100.000 impulses uncoupled.

Different threads available upon request.

## Installation, use and maintenance

- Install the fixed multiconnection with the proper fixing holes, by referring to the drawing shown in the datasheet.
- Install the flexible hoses on the coupling of the fixed and mobile multiconnection, by screwing them with proper torque.
- Clean the mating surface of the parts prior to connect.
- Insert and lock the removable lever in the corresponding hole on the lever system of the fixed multiconnection.
- Put the lever of the fixed multiconnection in complete open position, by disengaging the locking button and rotate the lever until the button is again engaged in the open position.
- Connect the mobile multiconnection by engaging the guiding pins into the fixed multiconnection.
- Disengage the button of the safety lock then connect the multiconnection by rotating the lever until the stroke is complete and the locking button engaged again in the closed position.
- Disconnect the lever from the fixed part in order to avoid injuries from fall or lose it. Park it in the proper (optional) support.
- When the mobile is connected with the fixed multiconnection, the cap can be easily parked in the parking station.
- To disconnect, insert the lever and disengage the locking button then rotate by doing vice versa the sequence above described.
- Then disengage the safety “anti-fall” locking system by pulling the knob on the mobile and separate the mobile multiconnection.
- After disconnection, clean the parts and apply the cap on the fixed part then connect the mobile part in the parking station to protect from dust and dirt.
- Disconnect and put the lever in the support.
- Clean frequently the multiconnection and the components.
- If needed, lubricate the connection and guiding parts.
- Check periodically the multiconnection by looking for leakage, damage or malfunctioning.

## Configurations



### Possible configurations

Position	Coupling Size	Predisposition for electrical connector
1	FAP21AS	-
2	FAP21AS	-
3	FAP9D	YES

Electrical connectors part number:  
806422060 F EC7BM - 806422061 M EC7BM.

For FAP9D and plugs part number see the Stucchi Multicoupling Catalog.

## Plates and spare parts

### Multicoupling (couplings included)

Code	Name	Description
870017114	MULTI FIX BM3 2E Provided with removable lever	2 FAP21AS 1-1/4 NPT
870017214	MULTI MOBILE BM3 2E	2 FAP21AS 1-1/4 NPT

### Multicoupling spare parts (couplings not included)

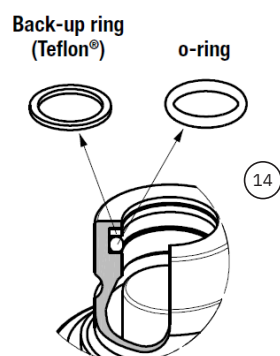
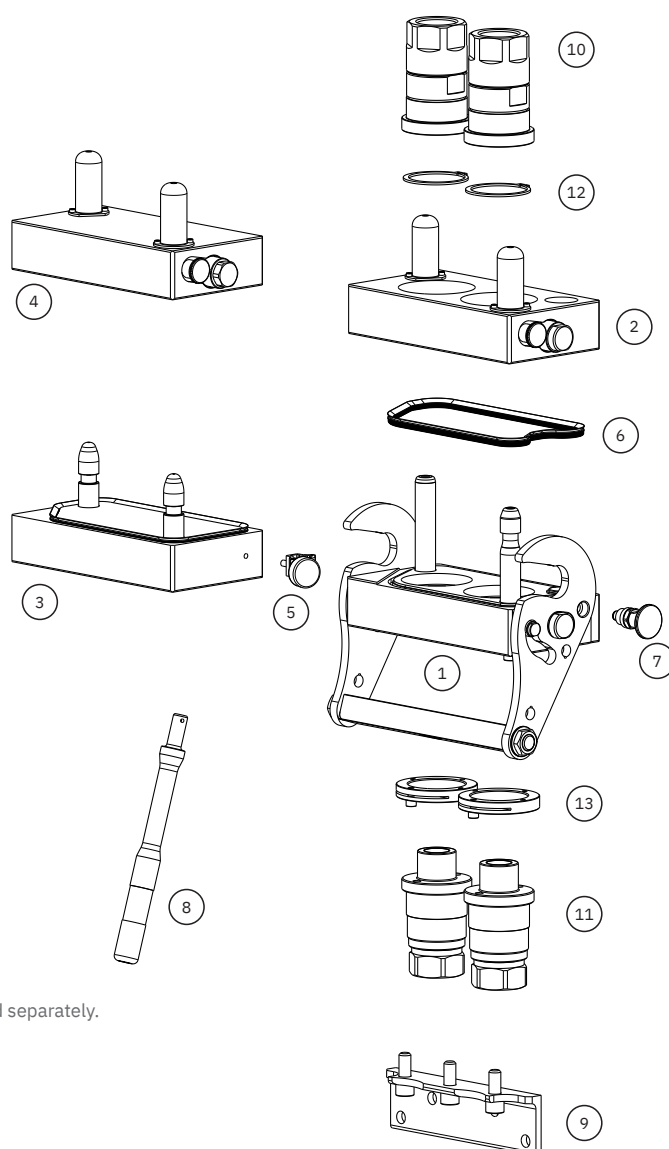
Code	Name	Key
806000430	MULTI FIX EMPTY BM3 1A-2E-1EC Removable lever and bracket not included, to be ordered separately	1
806000431	MULTI MOBILE EMPTY BM3 1A-2E-1EC	2
815606324	PARKING STATION MOBILE MULTICOUPLING BM 235x124	3
815606323	CAP FIX MULTI COUPLING BM 235X124	4
815524016	SUPPORT FOR LEVER BM	5
815701190	SPARE KIT DUST SEAL PLATE BM3	6
815701280	SPARE KIT SAFETY BUTTON BM	7
815701281	SPARE KIT REMOVABLE HANDLE BM	8
815701303	KIT BRACKET BM3 210x60	9

### Spare parts

Code	Name	Key
807101002*	F FAP21AS1 1-1/4 NPT	10
807101003**	M FAP21AS1 1-1/4 NPT	11
815701154	SPARE KIT SEEGER F FAP21AS1	12
815701155	SPARE KIT LOCKING SLEEVE M FAP21AS1	13
815701159	SPARE KIT SEAL PUR M FAP21AS1	14

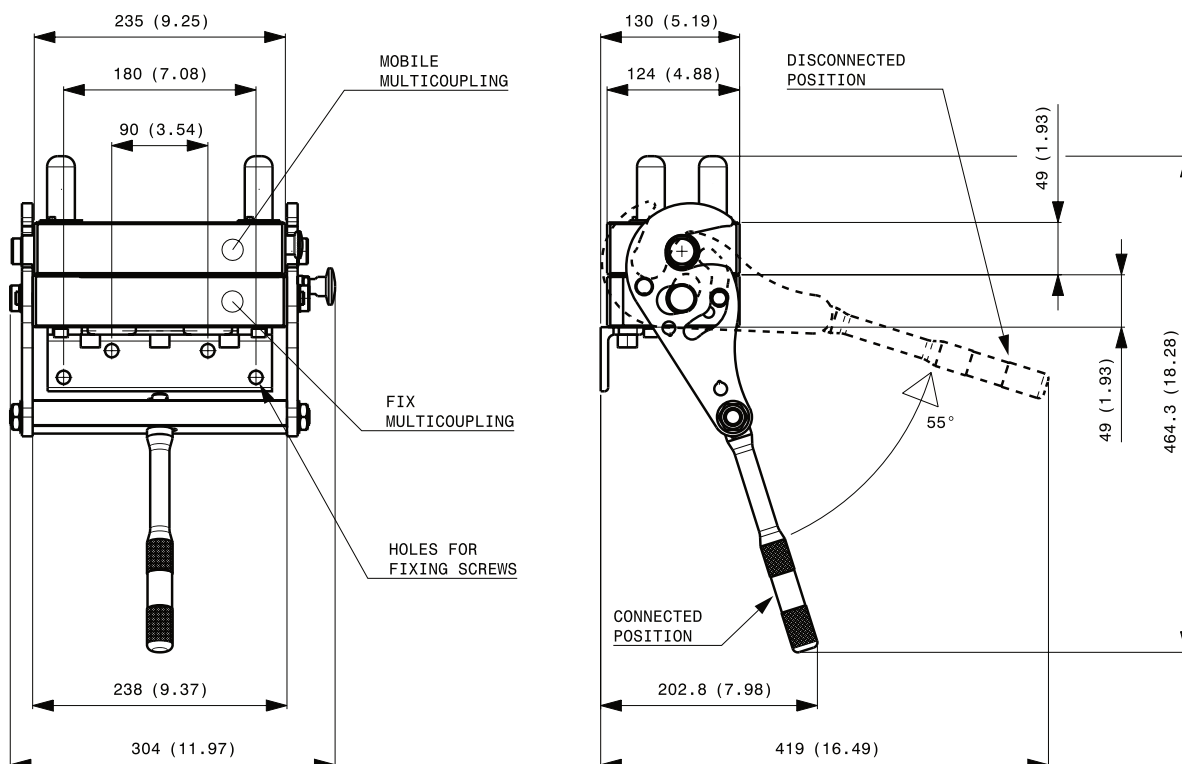
\* Seeger ring is not included in the female coupling; to be ordered separately.

\*\* Male locking sleeve and screw are not included in the female coupling; kit to be ordered separately.

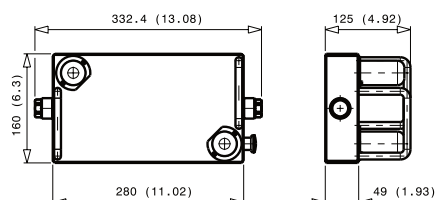


## Overall dimensions

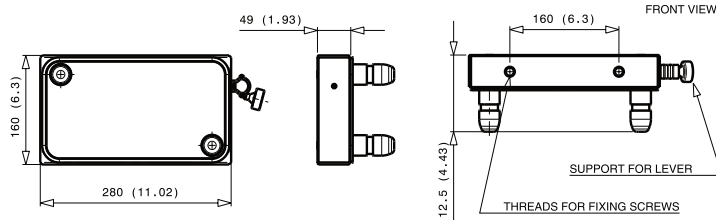
### Fixed and mobile multicoupling



### Cap for fix multicoupling



### Parking station for mobile multicoupling



## ⚠ WARNINGS

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

Connect under pressure products are suitable to be connected under residual (static) pressure.

Never connect or disconnect with dynamic pressure (e.g. pump on).

Do not use the female coupling disconnected with high impulse pressure.

Do not couple-uncouple with flow in the circuit.

Do not couple-uncouple when the temperature inside of the circuit is higher than 80 °C (176 °F).

Check the maximum allowable working pressure of the port in use.

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

Make sure that the medium used is compatible with seal and material as indicated for each series.

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.

We advise to assemble the multicoupling with the female face down in order to allow water or moisture to be drained easily.

Do not exceed single coupling performance and total multiconnection resistance of the multiconnection (please refer to dedicated datasheet).

Do not to pressurize the "auxiliary line with FAP9-3/8" line as this line has to be used for drain line only.

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 Multiconnection BM3 is intended to be used for hydraulic oil applications: do not use the products for dangerous, inflammable or explosive fluids.

The quick coupling FAP-AS series is intended to be used only on Stucchi Multiconnections BM. Do not use the FAP-AS coupling on a custom-made multiconnection or other device different than a Stucchi Multiconnection.

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 before selecting or using Stucchi products.**