

## Multi-FF

Fluid transfer & Hydraulic application



Danfoss Hansen Multi-FF system is designed for any application demanding multiple hydraulic fluid connections for power transmission. The system supports 2 to 6 flat face couplings simultaneously. The multiplate coupling system makes connectivity faster and simpler with a modular and flexible design. The configuration allows customized solutions with electrical connectors or specific couplings. The coupling body size has the ISO designation.

### Product features

- Robust, reliable and easy to use
- Supports FF couplings sizes 6 through 25
- Couplings available in Zinc plated or 316L stainless steel
- Connectable under residual pressure
- Plates constructed in aluminium
- Modular design with customization of couplings, very configurable (FF, MLDB, ADB and in every size)

### Application

- Mobile hydraulic, agriculture field
- Construction market
- Commercial vehicles

### Physical Characteristics

MultiFF Part Number	No. Of coupling ports	Coupling type	Coupling body size	Pattern	Operating pressure	Seal	No. Of electrical port	No. Of contacts in electrical connector	End connection for couplings # #
4MFC-10CUP15LS11	4	FFCUP**	ISO 10	DLM122	250 bar	NBR	0	–	15L as per ISO 8434-1
4MFCE1-12CUP15L	4	FFCUP	ISO 12	Generic	350 bar	NBR	1	3#	15L as per ISO 8434-1
4MFC-12CUP15L	4	FFCUP	ISO 12	Generic	350 bar	NBR	0	–	15L as per ISO 8434-1
4MFC-1015L	4	FF*	ISO 10	Generic	350 bar	NBR	0	–	15L as per ISO 8434-1
4MFCE1-1015L	4	FF	ISO 10	Generic	350 bar	NBR	1	3	15L as per ISO 8434-1
6MFC-1015L	6	FF	ISO 10	Generic	350 bar	NBR	0	–	15L as per ISO 8434-1

\*FF is ISO 16028 interchange flat face series coupling

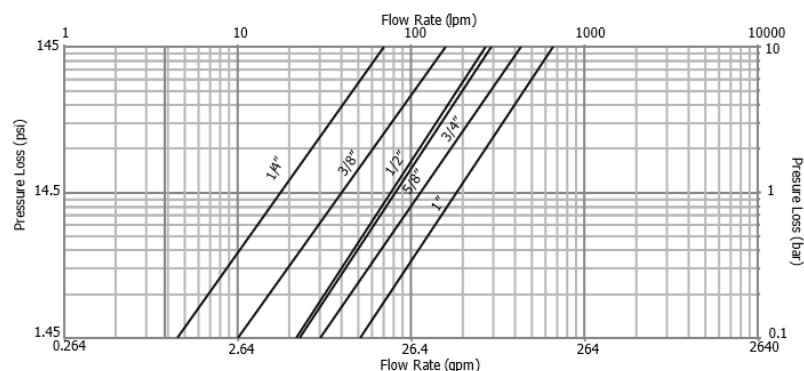
\*\*FFCUP is ISO 16028 interchange flat face series coupling with connect under residual pressure capability on plug side

# No. Of contacts in each connector is configurable and connector can be provided with 3 to 12 number of contacts as per requirement

# # Other end connection styles and sizes are available.. See next page for list of end connection available for configuration. Contact Danfoss CSR for more information.

**Note 1:** This limited list of configurations is indicative only. Danfoss' Multi-FF solution is highly configurable and optimum solution can be provided to meet application requirements. Please contact Danfoss CSR for more information.

### Flow Data



**Note 2:** This Flow chart is based on standard Flat face coupling configuration. Please contact Danfoss CSR for more information.

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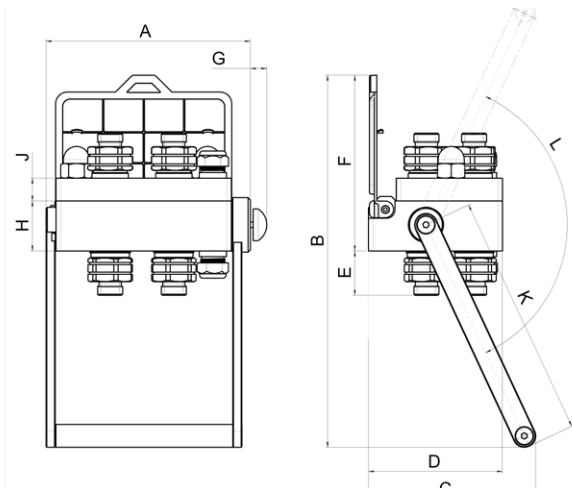


Figure 1

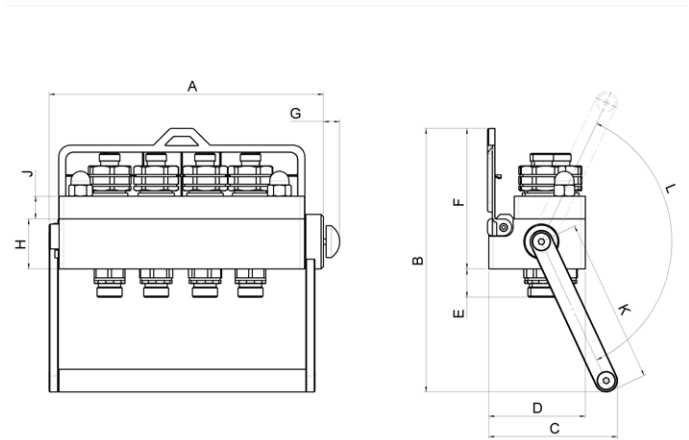


Figure 2

## Dimensions

Part number	Fig.	A		B		C		D		E		F		G		H		J		K		L °
		mm	(in)	mm	(in)	mm	(in)	mm	(in)	mm	(in)	mm	(in)	mm	(in)	mm	(in)	mm	(in)	mm	(in)	
4MFC-10CUP15LS11	2	241	(9,4)	232	(9,1)	113	(4,4)	85	(3,3)	25	(0,9)	124	(4,8)	14	(0,5)	44	(1,7)	20	(0,7)	145	(5,7)	130°
4MFCE1-12CUP15L	1	180	(7,0)	327	(12,8)	147	(5,7)	118	(4,6)	39	(1,53)	155	(6,1)	14	(0,5)	44	(1,7)	20	(0,7)	215	(8,4)	130°
4MFC-12CUP15L	1	180	(7,0)	327	(12,8)	147	(5,7)	118	(4,6)	39	(1,53)	155	(6,1)	14	(0,5)	44	(1,7)	20	(0,7)	215	(8,4)	130°
4MFC-1015L	1	160	(6,2)	288	(11,3)	130	(5,1)	107	(4,2)	25	(0,9)	144	(5,6)	14	(0,5)	44	(1,7)	20	(0,7)	185	(7,2)	130°
4MFCE1-1015L	1	160	(6,2)	288	(11,3)	130	(5,1)	107	(4,2)	25	(0,9)	144	(5,6)	14	(0,5)	44	(1,7)	20	(0,7)	185	(7,2)	130°
6MFC-1015L	1	205	(8)	325	(9,2)	143	(5,6)	116	(4,5)	25	(0,9)	153	(6)	14	(0,5)	44	(1,7)	20	(0,7)	215	(8,4)	130°

## Configuration Multi-FF

**4 MF C E1-12 ML 50BS 192 S11**

### Number of QDC

This digit specifies number of QDC's in a multi-FF set.  
MF is family name for Danfoss' Multiplate solution.

### Type of assembly

C: Complete set of Multi-FF system  
P: Movable plate sub-assembly (attachment side)  
S: Fixed plate sub-assembly (equipment side)

### Electrical connector

This position indicates number of electrical connectors in particular Multi-FF system  
(no code) = No electrical connector  
E1 = 1 electrical connector  
E2 = 2 electrical connectors  
Etc.

### QDC Body size

ISO size of QDC's used.  
6 = 1/4"  
10 = 3/8"  
12 = 1/2"  
16 = 5/8"  
19 = 3/4"  
25 = 1"

### Product series code

This position is to define type of QDC being used in Multi-FF solution

- (no code) = Flat Face ISO 16028
- CUP = Flat Face Connect Under Pressure ISO 16028
- MLFF = SS version of ISO 16028 coupling
- MLDB = SS version of Dry Break coupling (water transfer etc.)
- ADB = Dry Break coupling in Aluminium (for cooling line etc.)
- G600 = Pneumatic application coupling

**Danfoss internal code** for special QDC pattern or configuration

### Seal code

(no code) = NBR  
143 = FKM  
192 = EPDM  
507 = HNBR  
503 = FFKM  
242 = Kalrez® 6375

### End connection size and code

PT = NPT BS = BSPP  
MET = Metric UN = UNF  
L = ISO 8434-1 Light Duty  
S = ISO 8434-1 Heavy Duty

### End connection thread size

#### For BSPP, NPT, UN, UNF threads:

Fraction in inch x 100  
1/4 = 25; 3/8 = 37; 1/2 = 50  
5/8 = 62; 3/4 = 75; 1" = 100

#### For metric threads:

2 characters nominal thread size  
e.g. M5 = 05; M10 = 10; M22 = 22

#### For ISO 8434-1 terminal end:

2 digits tube size per ISO 8434-1