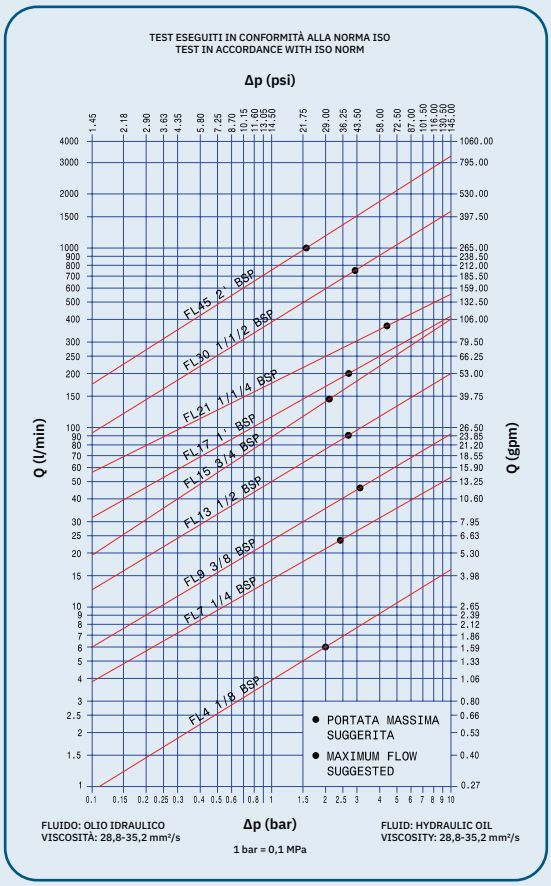
FLSERIES

INTERCHANGE > **ISO 16028 - NFPA T3.20.15 - HTMA (size 3/8")**





TECHNICAL FEATURES AND OPTIONS

Interchange
ISO 16028
NFPA T3.20.15
HTMA (size 3/8")

Sealing description
FKM (VITON®)

Connection system
Push

Available sizes
from 1/8"
to 2"

Material
Stainless steel
(AISI 316L)

Available threads
BSP - NPT - SAE

Operating pressure
Up to 350 bar

Locking mechanism
Locking ball +
Safety Lock

Flow rate
Up to 1000 l/min

Temperature (°C)
Different seals with a range of -40°C / +300°C.

Valving style
Flat face

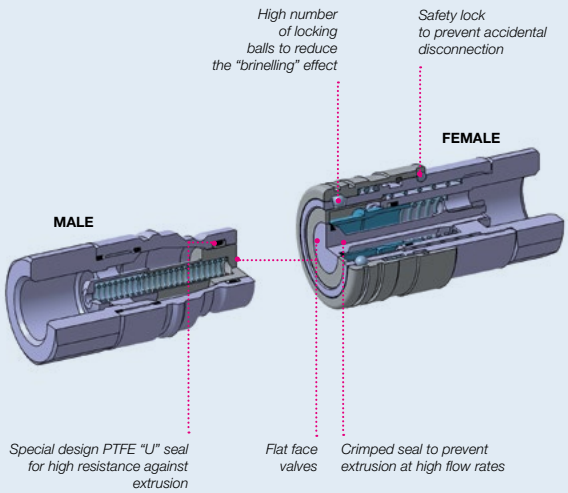
Connection under pressure
Connection: not allowed
Disconnection: not allowed

BENEFITS

- Flat face is easy to clean, reducing the inclusion of contamination inside the hydraulic circuit.
- Minimal fluid spillage during disconnection, reducing fluid spillage to the environment.
- Minimal air inclusion during connection.
- Optimal resistance to the corrosion for long life of couplings.
- Compact slim design.
- Safe and simple to use.

HOW TO USE

- Before to connect, clean the mating surface of the couplings to avoid dirt inclusion in the circuit.
- To connect push the male half towards the female half or vice versa.
- After connection turn the external sleeve to engage safety lock function, to prevent accidental disconnection.
- To disconnect turn the external sleeve until the sleeve lock notch match the safety lock ball and push back the sleeve.



MAIN APPLICATIONS



PERFORMANCES

Size		Series/Size	Max. flow suggested		Connect force		Disconnect force		Spillage*
in	mm (ISO)		l/min	gpm	N	lbf	N	lbf	ml
1/8		FL4	6	1,59	140	31,50	30	6,75	0,01
1/4	6,3	FL7	24	6,36	160	36,00	45	10,13	0,01
3/8	10,0	FL9	46	12,19	160	36,00	45	10,13	0,01
1/2	12,5	FL13	90	23,85	200	45,00	60	13,50	0,02
5/8	16,0	FL15	148	39,22	200	45,00	60	13,50	0,03
3/4	19,0	FL17	200	53,00	200	45,00	60	13,50	0,03
1	25,0	FL21	378	100,17	280	63,00	90	20,25	0,04
1-1/2	38,0	FL30	750	198,75	580	130,50	160	36,00	0,05
2	51,0	FL45	1000	265,00	490	110,25	70	15,75	0,10

Size	Series/Size	Max. operating pressure						Burst pressure					
		Coupled		Male		Female		Coupled		Male		Female	
in		MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
1/8	FL4	35	5075	35	5075	33	4785	140	20300	140	20300	120	17400
1/4	FL7	35	5075	35	5075	12	1740	140	20300	120	17400	48	6960
3/8	FL9	35	5075	35	5075	15	2175	140	20300	120	17400	60	8700
1/2	FL13	35	5075	35	5075	15	2175	120	17400	110	15950	60	8700
5/8	FL15	35	5075	30	4350	12	1740	120	17400	90	13050	48	6960
3/4	FL17	33	4785	28	4060	12	1740	100	14500	80	11600	48	6960
1	FL21	28	4060	28	4060	12	1740	90	13050	80	11600	48	6960
1-1/2	FL30	23	3335	23	3335	8	1160	80	11600	70	10150	32	4640
2	FL45	15	2175	15	2175	7	1015	60	8700	60	8700	28	4060

* Spillage is an indicative value of the fluid loss during disconnection (according to ISO norm test method).

Material:
- Construction: Stainless steel AISI 316L
- Springs: AISI 302
- Locking ball: AISI 316

Different possible configurations:
Different threads available upon request.
Male PL version, free flow.

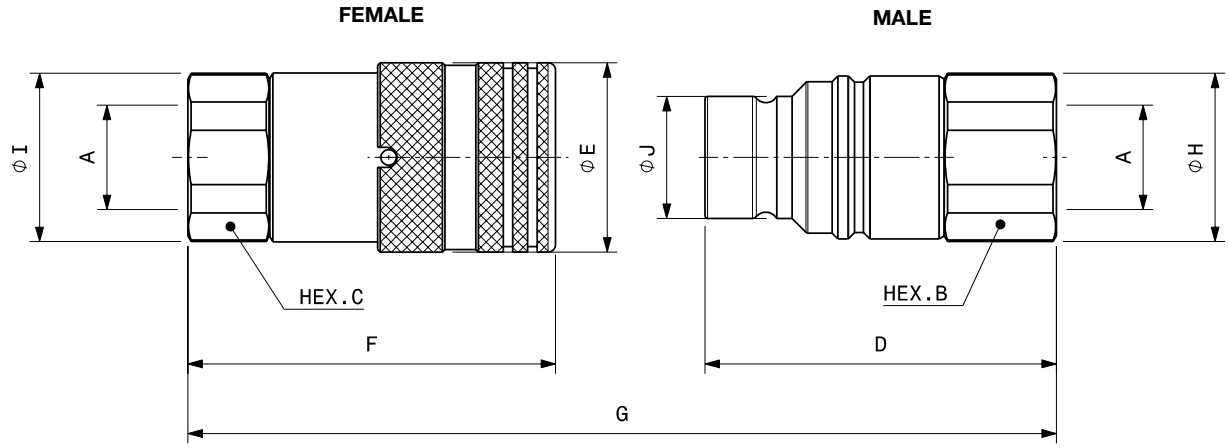
Temperature range:
Standard seals in FKM (VITON®): from -15°C to +180°C (from +5 °F to +356 °F).
Upon request seals in NBR (Nitrile): with oil from -20°C to +100°C (from -4°F to +212°F), with water from +5°C to +60°C (from +41°F to +140°F).

Upon request seals in EPDM (Ethylene Propylene) seals: from -40 °C to +150 °C (from -40 °F to +302 °F).
Upon request seals in KALREZ® seals: from -25 °C to +300 °C (from -13 °F to +572 °F).
The couplings with KALREZ® seals for high temperature use can be used at max. operating pressure of 5 Mpa (725 psi).
Please read carefully Instructions and warnings for proper selection of the products.

Tests performed:
Qualification tests have been performed with hydraulic oil using couplings with FKM (VITON®) seals.
The max. operating pressure have been verified for 100.000 impulses according to ISO norm test method.

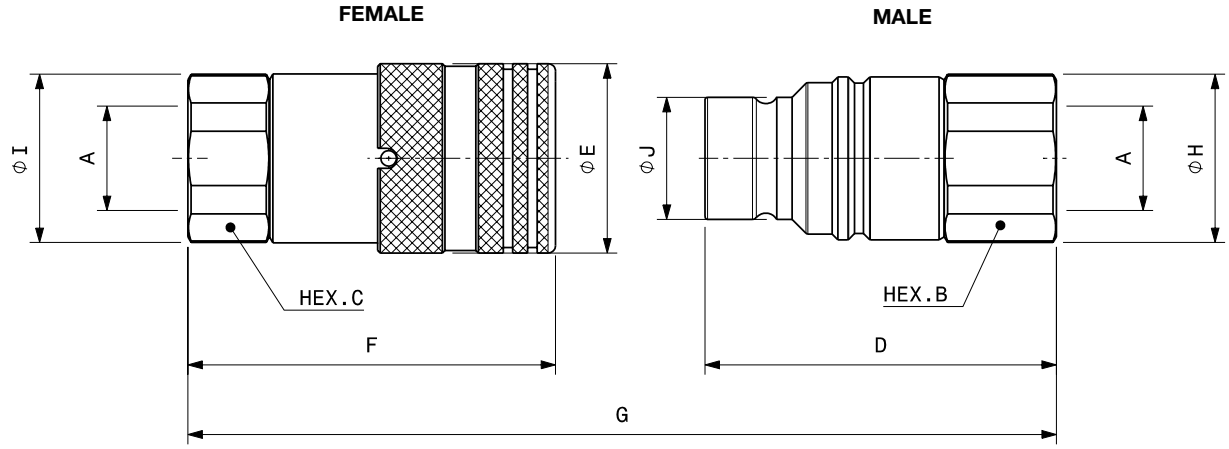
⚠ WARNING

A defect, a wrong choice or an improper use of products, can cause injury to persons, animals and objects.
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 and/or pressure in the circuit.
Do not couple-uncouple when the temperature inside of the circuit is higher than 80 °C (176 °F).
Do not use with fluids below the freezing point to avoid damages due to ice expansion and consequential extrusion of the valving.
Check the maximum allowable working pressure of the port in use.
Make sure that the medium used is compatible with seal and material as indicated for each series.
In case of doubt please contact Stucchi Technical Support.
The interchangeability is mentioned under the assumption that the manufacturer of the considered products has not changed any dimension.
It is mandatory to carefully read and closely follow the instructions before selecting or using any Stucchi products.
Always refer to the version uploaded in the Instructions and warning section of stucchigroup.com website for the latest release.
For specific, product-related, instructions, please contact Stucchi technical service.



Port description: FEMALE THREAD BSPP (ISO 1179-1)

Body Size	Descriptive Code	Item Code		ISO DN	PORT (A)	Overall Length			Length			Hex			Diameter			Diameter			Weight	
							mm	in		mm	in		mm	in		mm	in		mm	in	kg	lb
1/8"	F FL4 1/8 BSP	Female	802400122	-	1/8"	G	68,4	2,69	F	40,0	1,57	C	19,0	0,75	I	20,5	0,81	E	20,0	0,79	0,07	0,16
	M FL4 1/8 BSP	Male	802400123						D	36,3	1,43	B	17,0	0,67	H	18,5	0,73	J	11,6	0,46	0,04	0,08
1/4"	F FL7 1/4 BSP	Female	802400100	6,3	1/4"	G	86,7	3,41	F	48,3	1,90	C	22,0	0,87	I	23,8	0,94	E	28,0	1,10	0,14	0,31
	M FL7 1/4 BSP	Male	802400101						D	49,4	1,94	B	22,0	0,87	H	23,8	0,94	J	16,1	0,63	0,10	0,22
3/8"	F FL9 3/8 BSP	Female	802400102	10	3/8"	G	108,6	4,28	F	64,2	2,53	C	27,0	1,06	I	29,0	1,14	E	32,0	1,26	0,25	0,54
	M FL9 3/8 BSP	Male	802400103						D	59,9	2,36	B	24,0	0,94	H	26,0	1,02	J	19,7	0,78	0,12	0,27
3/8"	F FL9 1/2 BSP	Female	802400104	10	1/2"	G	116,1	4,57	F	69,2	2,72	C	27,0	1,06	I	29,0	1,14	E	32,0	1,26	0,24	0,53
	M FL9 1/2 BSP	Male	802400105						D	62,4	2,46	B	27,0	1,06	H	29,0	1,14	J	19,7	0,78	0,12	0,26
1/2"	F FL13 1/2 BSP	Female	802400106	12,5	1/2"	G	127,0	5,00	F	73,8	2,91	C	32,0	1,26	I	33,8	1,33	E	38,0	1,50	0,38	0,83
	M FL13 1/2 BSP	Male	802400107						D	70,5	2,78	B	32,0	1,26	H	33,8	1,33	J	24,5	0,96	0,26	0,57
1/2"	F FL13 3/4 BSP	Female	802400108	12,5	3/4"	G	134,0	5,28	F	80,8	3,18	C	36,0	1,42	I	38,5	1,52	E	38,0	1,50	0,38	0,83
	M FL13 3/4 BSP	Male	802400109						D	70,5	2,78	B	36,0	1,42	H	38,5	1,52	J	24,5	0,96	0,26	0,56
5/8"	F FL15 3/4 BSP	Female	802400110	16	3/4"	G	133,8	5,27	F	80,9	3,19	C	36,0	1,42	I	38,5	1,52	E	42,0	1,65	0,49	1,08
	M FL15 3/4 BSP	Male	802400111						D	70,5	2,78	B	36,0	1,42	H	38,5	1,52	J	27,0	1,06	0,28	0,62
3/4"	F FL17 1 BSP	Female	802400112	19	1"	G	153,3	6,04	F	92,9	3,66	C	46,0	1,81	I	49,5	1,95	E	48,0	1,89	0,80	1,75
	M FL17 1 BSP	Male	802400113						D	82,2	3,24	B	46,0	1,81	H	49,5	1,95	J	30,0	1,18	0,43	0,95
1"	F FL21 1-1/4 BSP	Female	802400114	25	1 1/4"	G	173,0	6,81	F	106,2	4,18	C	55,0	2,17	I	59,8	2,35	E	55,0	2,17	1,23	2,70
	M FL21 1-1/4 BSP	Male	802400115						D	90,0	3,54	B	55,0	2,17	H	59,8	2,35	J	36,0	1,42	0,67	1,48
1-1/2"	F FL30 1-1/2 BSP	Female	802400116	38	1 1/2"	G	214,8	8,46	F	132,4	5,21	C	65,0	2,56	I	72,0	2,83	E	80,0	3,15	2,91	6,41
	M FL30 1-1/2 BSP	Male	802400117						D	111,0	4,37	B	70,0	2,76	H	76,0	2,99	J	57,0	2,24	1,89	4,17
2"	F FL45 2 BSP	Female	802400118	51	2"	G	241,5	9,51	F	156,6	6,17	C	80,0	3,15	I	88,5	3,48	E	100,0	3,94	5,23	11,53
	M FL45 2 BSP	Male	802400119						D	123,8	4,87	B	75,0	2,95	H	83,5	3,29	J	73,0	2,87	2,29	5,05



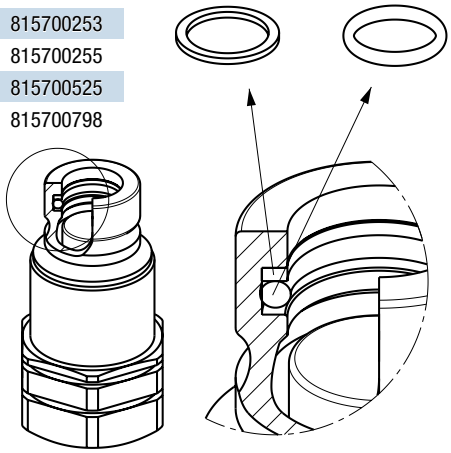
Port description: FEMALE THREAD NPT (ANSI B.1.20.1)

Body Size	Descriptive Code	Item Code		ISO DN	PORT (A)	Overall Length			Length			Hex			Diameter			Diameter			Weight	
							mm	in		mm	in		mm	in		mm	in		mm	in	kg	lb
1/8	F FL4 1/8 NPT	Female	802401118	-	1/8”	G	68,4	2,69	F	40,0	1,57	C	19,0	0,75	I	20,5	0,81	E	20,0	0,79	0,08	0,17
	M FL4 1/8 NPT	Male	802401119						D	36,3	1,43	B	17,0	0,67	H	18,5	0,73	J	11,6	0,46	0,04	0,09
1/4	F FL7 1/4 NPT	Female	802401100	6,3	1/4”	G	85,2	3,35	F	48,3	1,90	C	22,0	0,87	I	23,8	0,94	E	28,0	1,10	0,14	0,32
	M FL7 1/4 NPT	Male	802401101						D	47,9	1,89	B	22,0	0,87	H	23,8	0,94	J	16,1	0,63	0,09	0,21
3/8	F FL9 3/8 NPT	Female	802401102	10	3/8”	G	108,6	4,27	F	64,2	2,53	C	27,0	1,06	I	29,0	1,14	E	32,0	1,26	0,25	0,54
	M FL9 3/8 NPT	Male	802401103						D	59,9	2,36	B	24,0	0,94	H	26,0	1,02	J	19,7	0,78	0,14	0,30
3/8	F FL9 1/2 NPT	Female	802401104	10	1/2”	G	116,1	4,57	F	69,2	2,72	C	27,0	1,06	I	29,0	1,14	E	32,0	1,26	0,24	0,53
	M FL9 1/2 NPT	Male	802401105						D	62,4	2,46	B	27,0	1,06	H	29,0	1,14	J	19,7	0,78	0,14	0,30
1/2	F FL13 1/2 NPT	Female	802401106	12,5	1/2”	G	124,5	4,90	F	73,8	2,91	C	32,0	1,26	I	33,8	1,33	E	38,0	1,50	0,38	0,83
	M FL13 1/2 NPT	Male	802401107						D	68,0	2,68	B	32,0	1,26	H	33,8	1,33	J	24,5	0,96	0,26	0,57
1/2	F FL13 3/4 NPT	Female	802401108	12,5	3/4”	G	134	5,27	F	80,8	3,18	C	36,0	1,42	I	38,5	1,52	E	38,0	1,50	0,42	0,92
	M FL13 3/4 NPT	Male	802401109						D	70,5	2,78	B	36,0	1,42	H	38,5	1,52	J	24,5	0,96	0,27	0,59
5/8	F FL15 3/4 NPT	Female	802401110	16	3/4”	G	133,8	5,26	F	80,9	3,19	C	36,0	1,42	I	38,5	1,52	E	42,0	1,65	0,50	1,09
	M FL15 3/4 NPT	Male	802401111						D	70,5	2,78	B	36,0	1,42	H	38,5	1,52	J	27,0	1,06	0,28	0,62
3/4	F FL17 1 NPT	Female	802401112	19	1”	G	153,3	6,03	F	92,9	3,66	C	46,0	1,81	I	49,5	1,95	E	48,0	1,89	0,81	1,79
	M FL17 1 NPT	Male	802401113						D	82,2	3,24	B	46,0	1,81	H	49,5	1,95	J	30,0	1,18	0,43	0,95
1	F FL21 1-1/4 NPT	Female	802401114	25	1 1/4”	G	173	6,81	F	106,2	4,18	C	55,0	2,17	I	59,8	2,35	E	55,0	2,17	1,27	2,80
	M FL21 1-1/4 NPT	Male	802401115						D	90,0	3,54	B	55,0	2,17	H	59,8	2,35	J	36,0	1,42	0,78	1,72
1-1/2	F FL30 1-1/2 NPT	Female	802401116	38	1 1/2”	G	214,8	8,45	F	132,4	5,21	C	65,0	2,56	I	72,0	2,83	E	80,0	3,15	2,91	6,41
	M FL30 1-1/2 NPT	Male	802401117						D	111,0	4,37	B	70,0	2,76	H	76,0	2,99	J	57,0	2,24	1,90	4,18
2	F FL45 2 NPT	Female	802401120	51	2”	G	241,5	9,50	F	156,6	6,17	C	80,0	3,15	I	88,5	3,48	E	100,0	3,94	-	-
	M FL45 2 NPT	Male	802401121						D	123,8	4,87	B	75,0	2,95	H	83,5	3,29	J	73,0	2,87	-	-



SPARE KIT SEAL FOR MALE

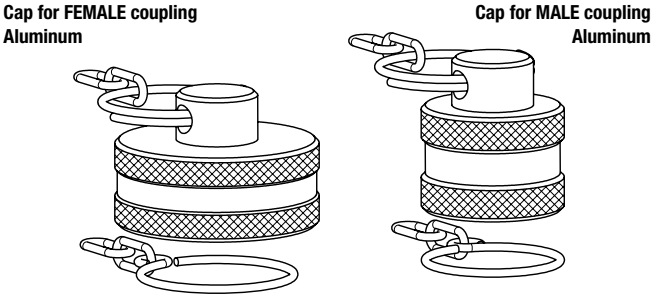
Repair kit / OR+BK		
Body Size	Description	Part Number
3/8”	M FL9	815700247
1/2”	M FL13	815700249
5/8”	M FL15	815700251
3/4”	M FL17	815700253
1”	M FL21	815700255
1-1/2”	M FL30	815700525
2”	M FL45	815700798



O-Ring in FKM (VITON®)
BackUp in Teflon®

PROTECTIVE CAPS FOR FL SERIES

Protective caps are always recommended to protect the couplings from damage, dirt inclusion, and will increase the product life. This is particularly important in mobile applications where exposure to weather and aggregate materials are common.
The protective caps for FL couplings are manufactured in aluminum with lanyard (colors: natural aluminum).



Protective Cap				
Body Size/Description		Part Number		Material/Color
		Cap for Female	Cap for Male	
1/4”	FL7	816005002	816005003	Aluminum/Natural
3/8”	FL9	816005004	816005005	Aluminum/Natural
1/2”	FL13	816005006	816005007	Aluminum/Natural
5/8”	FL15	816005008	816005009	Aluminum/Natural
3/4”	FL17	816005010	816005011	Aluminum/Natural
1”	FL21	816005012	816005013	Aluminum/Natural
1-1/2”	FL30	815105014	815105017	Aluminum/Natural
2”	FL45	815105016	815105019	Aluminum/Natural

The protective caps for FL couplings are also available in plastic (see A series caps at page 51).

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