

Technical Information

Liquiphant M FTL50(H), FTL51(H)

Vibration Limit Switch

Level limit switch for all liquids.

Suitable for use in hazardous areas, food and pharmaceuticals



Application

The Liquiphant M is a level limit switch for use in all liquids

- for process temperatures of $-50\text{ }^{\circ}\text{C}$ to $150\text{ }^{\circ}\text{C}$
- for pressures up to 100 bar
- for viscosity up to $10000\text{ mm}^2/\text{s}$
- for densities 0.5 g/cm^3 or 0.7 g/cm^3 other settings available on request
- foam detection on request

The function is not affected by flow, turbulence, bubbles, foam, vibration, bulk solids content or build-up.

The Liquiphant is thus the ideal substitute for float switches.

FTL50:

Compact design, ideal for mounting in pipes and for installation in areas difficult to access

FTL51:

With extension pipe up to 3 m
(6 m on request)

FTL50H, FTL51H:

With polished tuning fork and easy-to-clean process connections and housings for food and pharmaceutical applications.

High corrosion-resistant AlloyC4 (2.4610) is available for the fork and process connections for applications in very aggressive liquids.

EEx ia, EEx de and EEx d protection enable it to be used in hazardous areas.

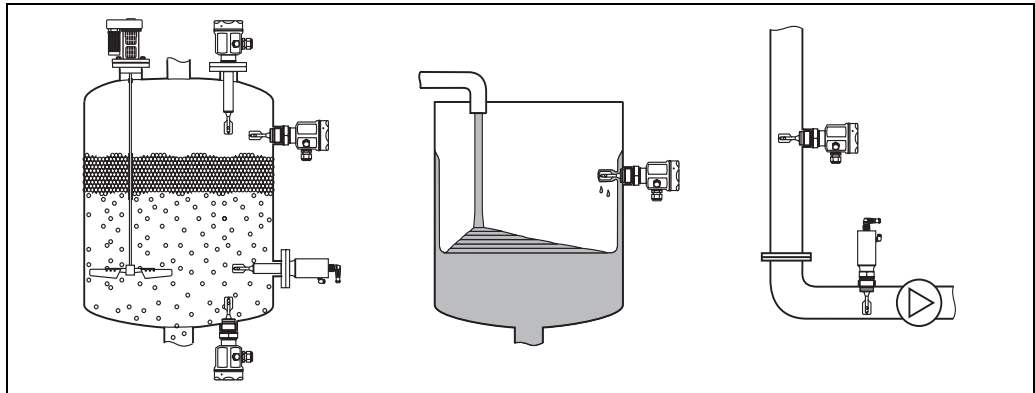
Your benefits

- Use in safety systems requiring functional safety to SIL2/SIL3 in accordance with IEC 61508/IEC 61511-1
- Large number of process connections to choose from: universal usage
- Wide variety of electronics, e.g. NAMUR, relay, thyristor, PFM signal output: the right connection for every process control system
- PROFIBUS PA protocol: for commissioning and maintenance
- No calibration: quick, low-cost start-up
- No mechanically moving parts: no maintenance, no wear, long operating life
- Monitoring of fork for damage: guaranteed function
- FDA approved materials (PFA Edlon)

Application

Level limit detection

Maximum or minimum detection in tanks or pipes containing all kinds of liquids, including use in hazardous areas, food and pharmaceuticals



L00-FTL5xxxx-11-05-xx-xx-000

Function and system design

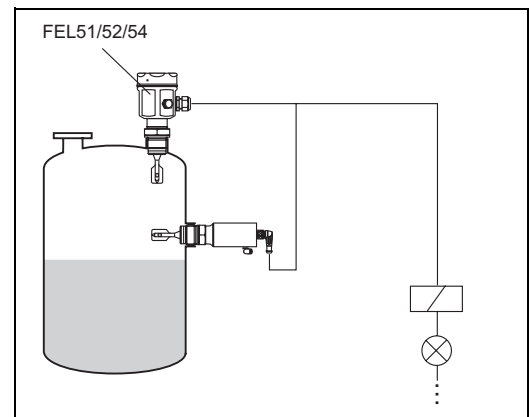
Measuring principle

The sensor's fork vibrates at its intrinsic frequency. This frequency is reduced when covered with liquid. The change in frequency then activates a limit switch.

Modularity

Level limit switch

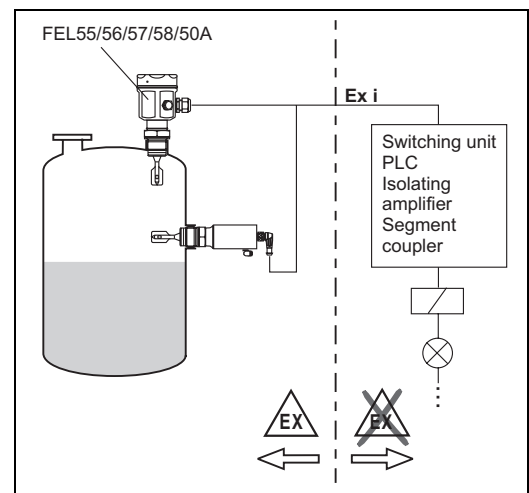
Liquiphant M FTL with electronic versions
FEL51, FEL52, FEL54



L00-FTL5xxxx-15-05-xx-xx-000

Level sensor

Liquiphant M FTL with electronic versions
FEL55, FEL56, FEL57, FEL58
for connecting to a separate switching unit or
or an isolating amplifier FEL50A
for connecting to PROFIBUS PA segment



L00-FTL5xxxx-15-05-xx-xx-000

Ordering information



Note!

This overview does not mark options which are mutually exclusive.

Product structure Liquiphant M FTL50 FTL51

Design		Basic weight
FTL50	Compact	0.6 kg
FTL51	With extension pipe	0.6 kg
10	Approval:	
A	Non-hazardous area	
B	ATEX II 3 G EEx nC II T6 ATEX II 3 D T 85 °C*	Overfill protection to WHG (Germany)
C	ATEX II 3 G EEx nA II T6 ATEX II 3 D T 85 °C*	Overfill protection to WHG (Germany)
D	Non-hazardous area	Overfill protection to WHG (Germany)
E	ATEX II 1/2 G EEx de IIC T6	Overfill protection to WHG (Germany)
F	ATEX II 1/2 G EEx ia IIC T6 ATEX II 1/2 D T 80 °C*	Overfill protection to WHG (Germany)
G	ATEX II 1/2 G EEx ia IIC T6 ATEX II 1/2 D T 80 °C*	
H	ATEX II 1 G EEx ia IIC T6	
I	ATEX II 1/2 G EEx de IIC T6	
J	ATEX II 1 G EEx ia IIC T6	Overfill protection to WHG (Germany)
K	ATEX II 1/2 G EEx d IIC T6	
L	ATEX II 1/2 G EEx d IIC T6	Overfill protection to WHG (Germany)
P	FM IS, Class I, II, III	Division 1, Group A-G
Q	FM XP, Class I, II, III	Division 1, Group B-G, for E5 housing Group A-G
R	FM NI, Class I	Division 2, Group A-D
S	CSA IS, Class I, II, III	Division 1, Group A-G
T	CSA XP, Class I, II, III	Division 1, Group A-G
U	CSA General Purpose	
V	TIIS Ex ia IIC T3	
W	TIIS Ex d IIB T3	
X	TIIS Ex ia IIC T6	
7	TIIS Ex d IIC T3	
8	TIIS Ex d IIC T6	
Y	Special version	
	*) not valid for PBT	
20	Process Connection:	Additional weight
	Note! For 100 bar process pressure, please select the appropriate option under "Additional option"	
GQ2	G ¾ 316L	Thread ISO 228
	Installation > accessory: welding neck	
GO5	G ¾ AlloyC4	Thread ISO 228
GR2	G 1 316L	Thread ISO 228
GR5	G 1 AlloyC4	Thread ISO 228
GW2	G 1 316L	Thread ISO 228
	Installation > accessory: welding neck	
GM2	NPT ¾ 316L	Thread ANSI
GM5	NPT ¾ AlloyC4	Thread ANSI
GN2	NPT 1 316L	Thread ANSI
GN5	NPT 1 AlloyC4	Thread ANSI
GE2	R ¾ 316L	Thread DIN 2999
GE5	R ¾ AlloyC4	Thread DIN 2999
GF2	R 1 316L	Thread DIN 2999
GF5	R 1 AlloyC4	Thread DIN 2999
BA2	DN32 PN6 A 316L	Flange EN 1092-1 (DIN 2527 B)
BB2	DN32 PN25/40 A 316L	Flange EN 1092-1 (DIN 2527 B)
BC2	DN40 PN6 A 316L	Flange EN 1092-1 (DIN 2527 B)
BD2	DN40 PN25/40 A 316L	Flange EN 1092-1 (DIN 2527 B)
BE2	DN50 PN6 A 316L	Flange EN 1092-1 (DIN 2527 B)

20	Process Connection:					Additional weight
BG2	DN50	PN25/40 A	316L		Flange EN 1092-1 (DIN 2527 B)	3.2 kg
BH2	DN65	PN6 A	316L		Flange EN 1092-1 (DIN 2527 B)	2.4 kg
BJ2	DN50	PN100 A	316L	(FTL51)	Flange EN 1092-1 (DIN 2527 B)	
BK2	DN65	PN25/40 A	316L		Flange EN 1092-1 (DIN 2527 B)	4.3 kg
BM2	DN80	PN10/16 A	316L		Flange EN 1092-1 (DIN 2527 B)	4.8 kg
BN2	DN80	PN25/40 A	316L		Flange EN 1092-1 (DIN 2527 B)	5.9 kg
BC2	DN100	PN10/16 A	316L		Flange EN 1092-1 (DIN 2527 B)	5.6 kg
BR2	DN100	PN25/40 A	316L		Flange EN 1092-1 (DIN 2527 B)	7.5 kg
B12	DN80	PN100 A	316L	(FTL51)	Flange EN 1092-1 (DIN 2527 B)	
B82	DN25	PN25/40 A	316L		Flange EN 1092-1 (DIN 2527 B)	1.4 kg
CA2	DN32	PN6 B1	316L		Flange EN 1092-1 (DIN 2527 C)	1.1 kg
CA5	DN32	PN6	AlloyC4 >316L		Flange EN 1092-1 (DIN 2527)	1.1 kg
CE2	DN50	PN6 B1	316L		Flange EN 1092-1 (DIN 2527 C)	1.5 kg
CE5	DN50	PN6	AlloyC4 >316L		Flange EN 1092-1 (DIN 2527)	1.5 kg
CG2	DN50	PN25/40 B1	316L		Flange EN 1092-1 (DIN 2527 C)	2.9 kg
CG5	DN50	PN25/40	AlloyC4 >316L		Flange EN 1092-1 (DIN 2527)	2.9 kg
CJ2	DN50	PN100 B2	316L	(FTL51)	Flange EN 1092-1 (DIN 2527)	
CN2	DN80	PN25/40 B1	316L		Flange EN 1092-1 (DIN 2527 C)	5.2 kg
CN5	DN80	PN25/40	AlloyC4 >316L		Flange EN 1092-1 (DIN 2527)	5.2 kg
CO2	DN100	PN10/16 B1	316L		Flange EN 1092-1 (DIN 2527 C)	5.3 kg
CO5	DN100	PN10/16	AlloyC4 >316L		Flange EN 1092-1 (DIN 2527)	5.3 kg
C12	DN80	PN100 B2	316L	(FTL51)	Flange EN 1092-1 (DIN 2527)	
C82	DN25	PN25/40 B1	316L		Flange EN 1092-1 (DIN 2527 C)	1.3 kg
C85	DN25	PN25/40	AlloyC4 >316L		Flange EN 1092-1 (DIN 2527)	1.3 kg
DG2	DN50	PN40 B1	316L		Flange EN 1092-1 (DIN 2526 D)	
DN2	DN80	PN40 B1	316L		Flange EN 1092-1 (DIN 2526 D)	
D82	DN25	PN40 B1	316L		Flange EN 1092-1 (DIN 2526 D)	
FG2	DN50	PN40 C	316L		Flange EN 1092-1 (DIN 2512 F)	2.6 kg
NG2	DN50	PN40 D	316L		Flange EN 1092-1 (DIN2512 N)	2.9 kg
AA2	1¼"	150 lbs	RF 316/316L		Flange ANSI B16.5	1.2 kg
AB2	1¼"	300 lbs	RF 316/316L	(FTL51)	Flange ANSI B16.5	2.0 kg
AC2	1½"	150 lbs	RF 316/316L		Flange ANSI B16.5	1.5 kg
AD2	1½"	300 lbs	RF 316/316L	(FTL51)	Flange ANSI B16.5	2.7 kg
AE2	2"	150 lbs	RF 316/316L		Flange ANSI B16.5	2.4 kg
AE5	2"	150 lbs	RF AlloyC4 >316/316L		Flange ANSI B16.5	2.4 kg
AF2	2"	300 lbs	RF 316/316L		Flange ANSI B16.5	3.2 kg
AG2	2"	600 lbs	RF 316/316L	(FTL51)	Flange ANSI B16.5	4.2 kg
AJ2	2½"	300 lbs	RF 316/316L	(FTL51)	Flange ANSI B16.5	4.8 kg
AL2	3"	150 lbs	RF 316/316L		Flange ANSI B16.5	4.9 kg
AM2	3"	300 lbs	RF 316/316L	(FTL51)	Flange ANSI B16.5	6.8 kg
AN2	3"	600 lbs	RF 316/316L	(FTL51)	Flange ANSI B16.5	
AP2	4"	150 lbs	RF 316/316L		Flange ANSI B16.5	7.0 kg
AC2	4"	300 lbs	RF 316/316L	(FTL51)	Flange ANSI B16.5	11.5 kg
AR2	4"	600 lbs	RF 316/316L	(FTL51)	Flange ANSI B16.5	17.3 kg
A82	1"	150 lbs	RF 316/316L		Flange ANSI B16.5	1.0 kg

20		Process Connection:			Additional weight
	KA2	10 K 25	RF 316L	Flange JIS B2220	
	KC2	10 K 40	RF 316L	Flange JIS B2220	
	KE2	10 K 50	RF 316L	Flange JIS B2220	1.7 kg
	KE5	10 K 50	RF AlloyC4 >316L	Flange JIS B2220	1.7 kg
	KL2	10 K 80	RF 316L	Flange JIS B2220	
	KP2	10 K 100	RF 316L	Flange JIS B2220	
	TC2	DN25-38 (1...1½")	316L	ISO 2852 Tri-Clamp	
	TE2	DN40-51 (2")	316L	ISO 2852 Tri-Clamp	0.1 kg
	YY9	Special version			
30		Probe Length; Type:			
		FTL50			
	AA	Compact;		Ra <3.2 µm/80 grit	
	IA	Compact;		temperature spacer	0.6 kg
	QA	Compact;		pressure tight feed through	0.7 kg
		FTL51			
	BB	..... mm;	316L**	Ra <3.2 µm/80 grit	
	BE	..... mm;	AlloyC4**	Ra <3.2 µm/80 grit	
	CB	..... inch;	316L**	Ra <3.2 µm/80 grit	
	CE	..... inch;	AlloyC4**	Ra <3.2 µm/80 grit	2.3 kg/100 in
	DB	Length: type II*;	316L	Ra <3.2 µm/80 grit	0.1 kg
	DE	Length: type II*;	AlloyC4	Ra <3.2 µm/80 grit	0.1 kg
	JB	..... mm;	316L**	+ temperature spacer	0.9 kg/m +0.6 kg
	JE	..... mm;	AlloyC4**	+ temperature spacer	0.9 kg/m +0.6 kg
	KB	..... inch;	316L**	+ temperature spacer	2.3 kg/100 in +0.6 kg
	KE	..... inch;	AlloyC4**	+ temperature spacer	2.3 kg/100 in +0.6 kg
	LB	Length: type II*;	316L	+ temperature spacer	0.1 kg +0.6 kg
	LE	Length: type II*;	AlloyC4	+ temperature spacer	0.1 kg +0.6 kg
	RB	..... mm;	316L**	+ pressure tight feed through	0.9 kg/m +0.7 kg
	RE	..... mm;	AlloyC4**	+ pressure tight feed through	0.9 kg/m +0.7 kg
	SB	..... inch;	316L**	+ pressure tight feed through	2.3 kg/100 in +0.7 kg
	SE	..... inch;	AlloyC4**	+ pressure tight feed through	2.3 kg/100 in +0.7 kg
	TB	Length: type II*;	316L	+ pressure tight feed through	0.1 kg +0.7 kg
	TE	Length: type II*;	AlloyC4	+ pressure tight feed through	0.1 kg +0.7 kg
	YY	Special version			
		*) Replacing instruments: when vertically mounting a Liquiphant M FTL51 with length II, the switch point is at the same height as for the Liquiphant II FTL360, FTL365, FDL30, FDL35			
		**) Order 3001...6000 mm (116...235 in) via yy			
40		Electronics; Output:			
	A	FEL50A	PROFIBUS PA		
	1	FEL51*	2-wire,	19...253 V AC	
	2	FEL52*	3-wire PNP,	10... 55 V DC	
	4	FEL54	relay DPDT,	19...253 V AC, 19...55 V DC	
	5	FEL55	8/16 mA,	11... 36 V DC	
	6	FEL56	NAMUR (L-H signal)		
	7	FEL57	2-wire PFM		
	8	FEL58*	NAMUR + test button (H-L signal)		
	9	Special version			
		*) Also available in compact housing			
50		Housing; Cable Entry:			
	C3	Compact 316L	IP66/68;	cable 5 m	
	D3	Compact 316L	IP65;	plug Pg11	ISO 4400

50					Housing; Cable Entry:			
				E3	Compact 316L	NEMA4X;	plug NPT 1/2	ISO 4400
				N3	Compact 316L	IP66/68;	plug M12	
				E4	F16 Polyester	NEMA4X;	thread NPT 1/2	
				E5	F13/F17 Alu	NEMA4X;	thread NPT 3/4	0.5 kg
				E6	F15 316L	NEMA4X;	thread NPT 1/2	0.1 kg
				E7	T13 Alu	coated IP66;	thread NPT 3/4	0.9 kg
					separate connection compartment			
				F4	F16 Polyester	IP66;	thread G 1/2	
				F5	F13/F17 Alu	IP66;	thread G 1/2	0.5 kg
				F6	F15 316L	IP66;	thread G 1/2	0.1 kg
				F7	T13 Alu	coated IP66;	thread G 1/2	0.9 kg
					separate connection compartment			
				G4	F16 Polyester	IP66;	gland M20	
				G5	F13/F17 Alu	IP66;	gland M20 (EEx d > thread M20)	0.5 kg
				G6	F15 316L	IP66;	gland M20	0.1 kg
				G7	T13 Alu	coated IP66;	gland M20 (EEx d > thread M20)	0.9 kg
					separate connection compartment			
				N4	F16 Polyester	IP66;	plug M12	
				N5	F13/F17 Alu	IP66;	plug M12	
				N6	F15 316L	IP66;	plug M12	
				Y9	Special version			
60					Additional Option:			
				A	Basic version			
				C	EN 10204 - 3.1 material (316L wetted parts) Inspection certificate			
				N	EN 10204 - 3.1 material, NACE MR0175 (316L wetted parts) Inspection certificate			
				P	100 bar process pressure			(FTL51)
				R	100 bar process pressure, EN 10204 - 3.1 material, NACE MR0175 (316L wetted parts) Inspection certificate			
				S	GL/ABS marine certificate (FTL51: max. 1600 mm)			
				Y	Special version			
FTL5# -					Complete product designation			



Note!

The basic weight includes the compact sensor, thread adapter G 3/4, electronic insert, polyester housing

Product structure
Liquiphant M
FTL50H
FTL51H

Design		Basic weight
FTL50H	Compact	0.7 kg
FTL51H	With extension pipe	0.7 kg

10	Approval:		
A	Non-hazardous area		
B	ATEX II 3 G	EEx nC II T6	Overfill protection to WHG (Germany)
	ATEX II 3 D	T 85 °C*	
C	ATEX II 3 G	EEx nA II T6	Overfill protection to WHG (Germany)
	ATEX II 3 D	T 85 °C*	
D	Non-hazardous area		
E	ATEX II 1/2 G	EEx de IIC T6	Overfill protection to WHG (Germany)
F	ATEX II 1/2 G	EEx ia IIC T6	Overfill protection to WHG (Germany)
	ATEX II 1/2 D	T 80 °C*	
G	ATEX II 1/2 G	EEx ia IIC T6	
	ATEX II 1/2 D	T 80 °C*	
H	ATEX II 1 G	EEx ia IIC T6	
I	ATEX II 1/2 G	EEx de IIC T6	
J	ATEX II 1 G	EEx ia IIC T6	Overfill protection to WHG (Germany)
K	ATEX II 1/2 G	EEx d IIC T6	
L	ATEX II 1/2 G	EEx d IIC T6	Overfill protection to WHG (Germany)
P	FM	IS, Class I, II, III	Division 1, Group A-G
Q	FM	XP, Class I, II, III	Division 1, Group B-G, for E5 housing Group A-G
R	FM	NI, Class I	Division 2, Group A-D
S	CSA	IS, Class I, II, III	Division 1, Group A-G
T	CSA	XP, Class I, II, III	Division 1, Group A-G
U	CSA	General Purpose	
V	TIIS	Ex ia IIC T3	
W	TIIS	Ex d IIB T3	
X	TIIS	Ex ia IIC T6	
7	TIIS	Ex d IIC T3	
8	TIIS	Ex d IIC T6	
Y	Special version		
	*) not valid for PBT		

20	Process Connection:				Additional weight
GQ2	G ¾		316L (FTL50H)	Thread ISO 228	
	Installation > accessory: welding neck				
GW2	G 1		316L	Thread ISO 228	0.2 kg
	Installation > accessory: welding neck				
BA2	DN32	PN6 A	316L	Flange EN 1092-1 (DIN 2527 B)	1.2 kg
BB2	DN32	PN25/40 A	316L	Flange EN 1092-1 (DIN 2527 B)	2.0 kg
BC2	DN40	PN6 A	316L	Flange EN 1092-1 (DIN 2527 B)	1.4 kg
BD2	DN40	PN25/40 A	316L	Flange EN 1092-1 (DIN 2527 B)	2.4 kg
BE2	DN50	PN6 A	316L	Flange EN 1092-1 (DIN 2527 B)	1.6 kg
BG2	DN50	PN25/40 A	316L	Flange EN 1092-1 (DIN 2527 B)	3.2 kg
BH2	DN65	PN6 A	316L	Flange EN 1092-1 (DIN 2527 B)	2.4 kg
BK2	DN65	PN25/40 A	316L	Flange EN 1092-1 (DIN 2527 B)	4.3 kg
BM2	DN80	PN10/16 A	316L	Flange EN 1092-1 (DIN 2527 B)	4.8 kg
BN2	DN80	PN25/40 A	316L	Flange EN 1092-1 (DIN 2527 B)	5.9 kg
BQ2	DN100	PN10/16 A	316L	Flange EN 1092-1 (DIN 2527 B)	5.6 kg
BR2	DN100	PN25/40 A	316L	Flange EN 1092-1 (DIN 2527 B)	7.5 kg
B82	DN25	PN25/40 A	316L	Flange EN 1092-1 (DIN 2527 B)	1.4 kg
CG2	DN50	PN25/40 B1	316L	Flange EN 1092-1 (DIN 2527 C)	3.2 kg
CN2	DN80	PN25/40 B1	316L	Flange EN 1092-1 (DIN 2527 C)	5.9 kg

20	Process Connection:				Additional weight	
	CO2	DN100	PN10/16 B1	316L	Flange EN 1092-1 (DIN 2527 C)	5.6 kg
	EE2	1" flush-mounted (52001047)		316L		0.3 kg
		Installation > accessory: welding neck				
	HE2	DN50	Tube DIN 11850	316L	DIN 11864-1 A	0.3 kg
	AA2	1¼"	150 lbs	RF 316/316L	Flange ANSI B16.5	1.2 kg
	AC2	1½"	150 lbs	RF 316/316L	Flange ANSI B16.5	1.5 kg
	AE2	2"	150 lbs	RF 316/316L	Flange ANSI B16.5	2.4 kg
	AF2	2"	300 lbs	RF 316/316L	Flange ANSI B16.5	3.2 kg
	AJ2	2½"	300 lbs	RF 316/316L (FTL51H)	Flange ANSI B16.5	4.8 kg
	AL2	3"	150 lbs	RF 316/316L	Flange ANSI B16.5	4.9 kg
	AM2	3"	300 lbs	RF 316/316L (FTL51H)	Flange ANSI B16.5	6.8 kg
	AP2	4"	150 lbs	RF 316/316L	Flange ANSI B16.5	7.0 kg
	AQ2	4"	300 lbs	RF 316/316L (FTL51H)	Flange ANSI B16.5	11.5 kg
	A82	1"	150 lbs	RF 316/316L	Flange ANSI B16.5	1.0 kg
	KA2	10 K 25		RF 316L	Flange JIS B2220	
	KC2	10 K 40		RF 316L	Flange JIS B2220	
	KE2	10 K 50		RF 316L	Flange JIS B2220	1.7 kg
	KL2	10 K 80		RF 316L	Flange JIS B2220	
	KP2	10 K 100		RF 316L	Flange JIS B2220	
	MA2	DN32	PN25	316L	DIN 11851	0.1 kg
	MC2	DN40	PN25	316L	DIN 11851	0.2 kg
	ME2	DN50	PN25	316L	DIN 11851	0.3 kg
	PE2	DRD	65 mm	316L		0.3 kg
	TC2	DN25-38 (1...1½")		316L	ISO 2852 Tri-Clamp	
	TE2	DN40-51 (2")		316L	ISO 2852 Tri-Clamp	0.1 kg
	UE2	SMS 2" PN25		316L		0.2 kg
	WE2	DN65-162 PN10		316L	Varivent N tube	0.5 kg
	YY9	Special version				

30	Probe Length; Type:			
	FTL50H			
	AC	Compact;	Ra <1.5 µm/120 grit	
	AD	Compact;	Ra <0.3 µm/320 grit / A3	
	IC	Compact;	Ra <1.5 µm/120 grit + temperature spacer	0.6 kg
	ID	Compact;	Ra <0.3 µm/320 grit / A3 + temperature spacer	0.6 kg
	QC	Compact;	Ra <1.5 µm/120 grit + pressure tight feed through	0.7 kg
	QD	Compact;	Ra <0.3 µm/320 grit / A3 + pressure tight feed through	0.7 kg
	FTL51H			
	BC	..... mm;	Ra <1.5 µm/120 grit	0.9 kg/m
	BD	..... mm;	Ra <0.3 µm/320 grit / A3	0.9 kg/m
	CC	..... inch;	Ra <1.5 µm/120 grit	2.3 kg/100 in
	CD	..... inch;	Ra <0.3 µm/320 grit / A3	2.3 kg/100 in
	DC	Length: type II*;	Ra <1.5 µm/120 grit	0.1 kg
	DD	Length: type II*;	Ra <0.3 µm/320 grit / A3	0.1 kg
	JC	..... mm;	Ra <1.5 µm/120 grit + temperature spacer	0.9 kg/m +0.6 kg
	JD	..... mm;	Ra <0.3 µm/320 grit + temperature spacer	0.9 kg/m +0.6 kg
	KC	..... inch;	Ra <1.5 µm/120 grit + temperature spacer	2.3 kg/100 in +0.6 kg
	KD	..... inch;	Ra <0.3 µm/320 grit + temperature spacer	2.3 kg/100 in +0.6 kg
	LC	Length: type II*;	Ra <1.5 µm/120 grit + temperature spacer	0.1 kg +0.6 kg
	LD	Length: type II*;	Ra <0.3 µm/320 grit + temperature spacer	0.1 kg +0.6 kg
	RC	..... mm;	Ra <1.5 µm/120 grit + pressure tight feed through	0.9 kg/m +0.7 kg
	RD	..... mm;	Ra <0.3 µm/320 grit + pressure tight feed through	0.9 kg/m +0.7 kg
	SC	..... inch;	Ra <1.5 µm/120 grit + pressure tight feed through	2.3 kg/100 in +0.7 kg
	SD	..... inch;	Ra <0.3 µm/320 grit + pressure tight feed through	2.3 kg/100 in +0.7 kg

30						Probe Length; Type:					
			TC	Length: type II*; Ra <1.5 µm/120 grit + pressure tight feed through		0.1 kg +0.7 kg					
			TD	Length: type II*; Ra <0.3 µm/320 grit + pressure tight feed through		0.1 kg +0.7 kg					
			YY	Special version							
*) Replacing instruments: when vertically mounting a Liquiphant M FTL51H with length II, the switch point is at the same height as for the Liquiphant II FTL360, FTL365, FDL30, FDL35											
40						Electronics; Output:					
			A	FEL50A	PROFIBUS PA						
			1	FEL51*	2-wire, 19...253 V AC						
			2	FEL52*	3-wire PNP, 10... 55 V DC						
			4	FEL54	relay DPDT, 19...253 V AC, 19...55 V DC						
			5	FEL55	8/16 mA, 11... 36 V DC						
			6	FEL56	NAMUR (L-H signal)						
			7	FEL57	2-wire PFM						
			8	FEL58*	NAMUR + test button (H-L signal)						
			9	Special version							
*) Also available in compact housing											
50						Housing; Cable Entry:					
			C3	Compact 316L	IP66/68; cable 5 m						
			D3	Compact 316L	IP65; plug Pg11	ISO 4400					
			E3	Compact 316L	NEMA4X; plug NPT ½	ISO 4400					
			N3	Compact 316L	IP66/68; plug M12						
			E4	F16 Polyester	NEMA4X; thread NPT ½	-0.1 kg					
			E5	F13/F17 Alu	NEMA4X; thread NPT ¾	0.4 kg					
			E6	F15 316L	NEMA4X; thread NPT ½						
			E7	T13 Alu	coated IP66; thread NPT ¾	0.8 kg					
				separate connection compartment							
			F4	F16 Polyester	IP66; thread G ½	-0.1 kg					
			F5	F13/F17 Alu	IP66; thread G ½	0.4 kg					
			F6	F15 316L	IP66; thread G ½						
			F7	T13 Alu	coated IP66; thread G ½	0.8 kg					
				separate connection compartment							
			G4	F16 Polyester	IP66; gland M20	-0.1 kg					
			G5	F13/F17 Alu	IP66; gland M20 (EEx d > thread M20)	0.4 kg					
			G6	F15 316L	IP66; gland M20						
			G7	T13 Alu	coated IP66; gland M20 (EEx d > thread M20)	0.8 kg					
				separate connection compartment							
			N4	F16 Polyester	IP66; plug M12						
			N5	F13/F17 Alu	IP66; plug M12						
			N6	F15 316L	IP66; plug M12						
			Y9	Special version							
60						Additional Option:					
			A	Basic version							
			B	CoC, EN 10204 - 3.1 material (316L wetted parts) Inspection certificate							
			C	EN 10204 - 3.1 material (316L wetted parts) Inspection certificate							
			S	GL/ABS marine certificate (FTL51H: max. 1600 mm)							
			Y	Special version							
FTL5#H -						Complete product designation					



Note!

The basic weight includes the compact sensor, thread adapter G ¾, electronic insert, steel housing

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