







## Application Low Flow

### Flow transmitter

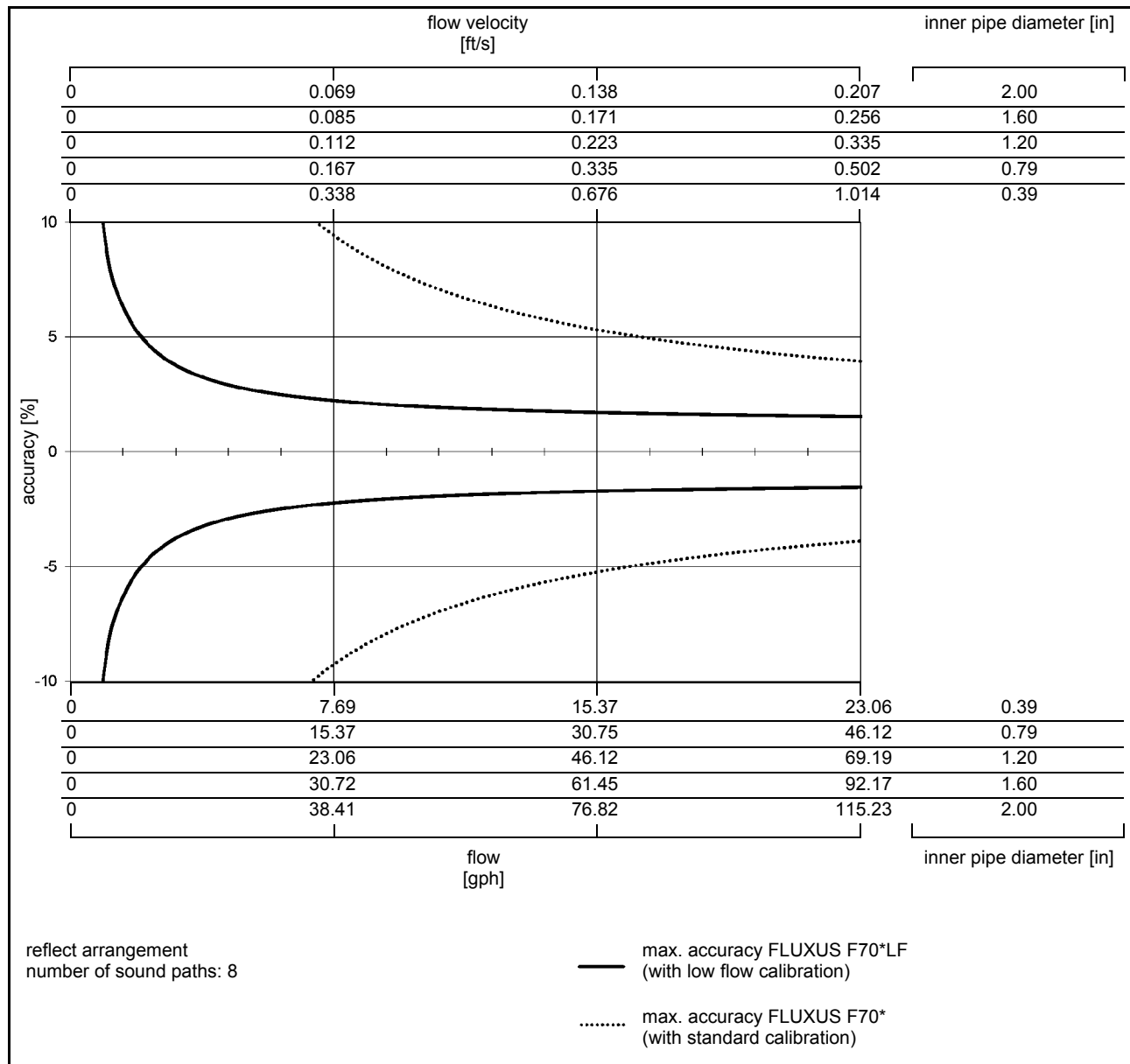
#### Technical data

FLUXUS	F704LF-NN F704LF-F2	F705LF-NN F705LF-F2	
design	standard field device	field device with stainless steel housing	
application	eXtreme Low Flow (XLF) measurement for liquids		
transducers	CDQ*N**		
transducer mounting fixture	Variofix L with bolt mounting plates VLQ-DS-B (outer pipe diameter ≤ 1.9 in) Variofix L VLQ-DS-S (outer pipe diameter > 1.9 in)		
			
<b>measurement</b>			
measurement principle	transit time difference correlation principle		
flow velocity	depending on pipe diameter, see diagrams		
fluid	all acoustically conductive liquids with < 2 % gaseous or solid content in volume		
temperature compensation	corresponding to the recommendations in ANSI/ASME MFC-5.1-2011		
accuracy	depending on pipe diameter, see diagrams		
<b>flow transmitter</b>			
power supply	100 to 230 V/50 to 60 Hz or 20 to 32 V DC		
power consumption	< 15 W		
number of flow measuring channels	1		
damping	0 to 100 s, adjustable		
measuring cycle	100 to 1000 Hz		
response time	1 s		
housing material	aluminum, powder coated	stainless steel 316L	
degree of protection	NEMA 4	NEMA 4X	
dimensions	see dimensional drawing		
weight	6.8 lb	10.8 lb	
fixation	wall mounting, optional: 2" pipe mounting		
ambient temperature	-4 to +131/140 °F		
display	2 x 16 characters, dot matrix, backlight		
menu language	English, German, French, Dutch, Spanish		
<b>explosion protection (optional)</b>			
<b>F M</b>	transmitter marking	F704**-F2 F70[1 or 2]Z2**[1 or 2]:  NI/Cl. I,II,III/Div. 2/ GP. A,B,C,D,E,F,G/ T5 Ta = 60 °C  F70[1 or 2]Z2**9:  NI/Cl. I,II,III/Div. 2/ GP. A,B,C,D,E,F,G/ T4A Ta = 55 °C	F705**-F2 F703Z2**[1 or 2]:  NI/Cl. I,II,III/Div. 2/ GP. A,B,C,D,E,F,G/ T5 Ta = 60 °C  F703Z2**9:  NI/Cl. I,II,III/Div. 2/ GP. A,B,C,D,E,F,G/ T4A Ta = 55 °C

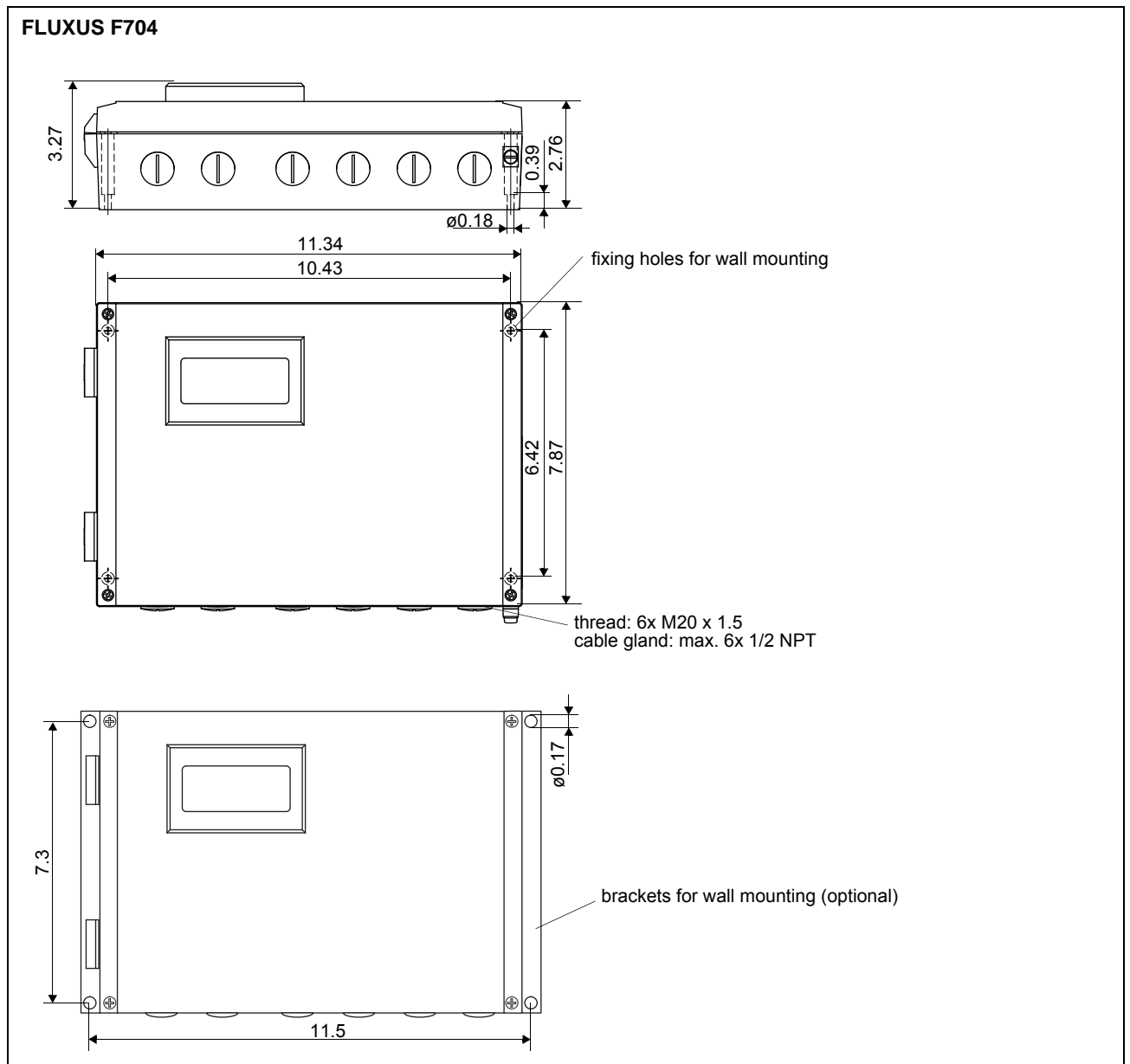
FLUXUS	F704LF-NN F704LF-F2	F705LF-NN F705LF-F2
<b>measuring functions</b>		
physical quantities	volumetric flow rate, mass flow rate, flow velocity	
totalizer	volume, mass	
diagnostic functions	sound speed, signal amplitude, SNR, SCNR, standard deviation of amplitudes and transit times	
<b>communication interfaces</b>		
diagnostic interfaces	- diagnosis: RS232 - USB (with adapter)	
process interfaces (max. 1 optional)	- RS485 (sender) - Modbus RTU - HART - BACnet MS/TP (nonEx) - BACnet IP (nonEx) - FF H1 - SD card (nonEx)	
<b>serial data kit (optional)</b>		
software	- FluxDiagReader: download of measured values and parameters, graphical presentation - FluxDiag (optional): download of measurement data, graphical presentation, report generation - FluxSubstanceLoader: upload of fluid data sets	
cable	RS232	
adapter	RS232 - USB	
<b>data logger</b>		
loggable values	all physical quantities, totaled values and diagnostic values	
capacity	> 100 000 measured values	
<b>SD card, removable (nonEx, optional)</b>		
loggable values	all physical quantities and totaled values	
capacity	min. 2 GB	
<b>outputs (optional)</b>		
	The outputs are galvanically isolated from the transmitter.	
number	on request	
<b>switchable current output</b>		
	All switchable current outputs are switched to active or passive mode at the same time.	
- range	4 to 20 mA (3.2 to 22 mA)	
- accuracy	0.04 % of reading $\pm 3 \mu\text{A}$	
- active output	$R_{\text{ext}} < 350 \Omega$	
- passive output	$U_{\text{ext}} = 8 \text{ to } 30 \text{ V}$ , depending on $R_{\text{ext}}$ , $R_{\text{ext}} < 1 \text{ k}\Omega$	
<b>current output</b>		
current output		
- range	0/4 to 20 mA	
- accuracy	0.1 % of reading $\pm 15 \mu\text{A}$	
- active output	$R_{\text{ext}} < 500 \Omega$	
- passive output	$U_{\text{ext}} = 4 \text{ to } 24 \text{ V}$ , depending on $R_{\text{ext}}$ , $R_{\text{ext}} < 1 \text{ k}\Omega$	
current output I1 in HART mode		
- range	4 to 20 mA	
- passive output	$U_{\text{ext}} = 10 \text{ to } 24 \text{ V}$	
<b>voltage output</b>		
range	0 to 1 V or 0 to 10 V	
accuracy	0 to 1 V: 0.1 % of reading $\pm 1 \text{ mV}$ 0 to 10 V: 0.1 % of reading $\pm 10 \text{ mV}$	
internal resistance	$R_{\text{int}} = 500 \Omega$	
<b>frequency output</b>		
range	0 to 5 kHz	
open collector	24 V/4 mA, $R_{\text{int}} = 66.5 \Omega$	
<b>binary output</b>		
Reed relay	48 V/100 mA, P1 to P4: $R_{\text{int}} = 22 \Omega$	
open collector	24 V/4 mA, P1 to P4: $R_{\text{int}} = 22 \Omega$	
optorelay	26 V/100 mA	
binary output as alarm output - functions	limit, change of flow direction or error	
binary output as pulse output - pulse value - pulse width	mainly for totalizing 0.01 to 1000 units optorelay: 1 to 1000 ms Reed relay, open collector: 80 to 1000 ms	

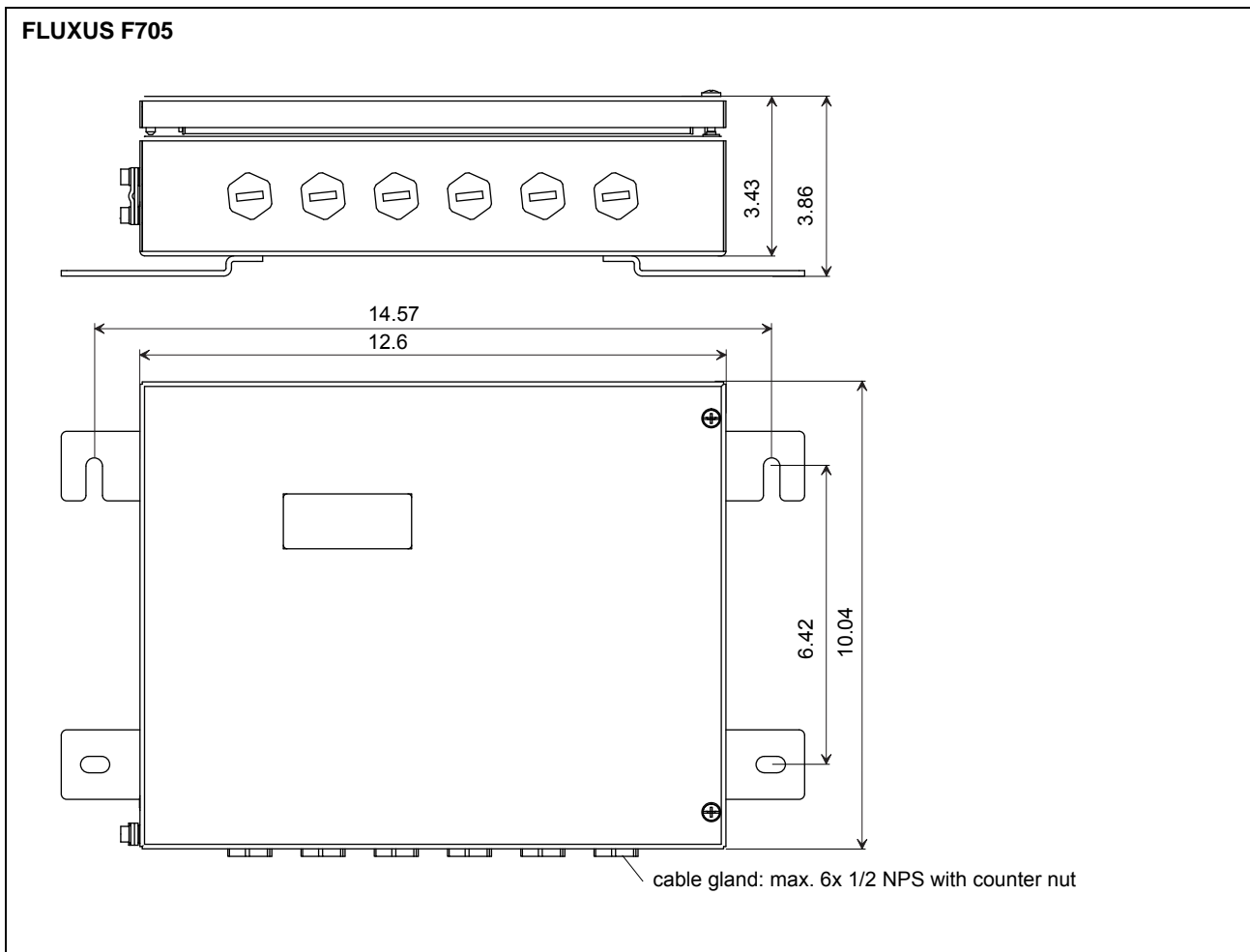
FLUXUS	F704LF-NN F704LF-F2	F705LF-NN F705LF-F2
<b>inputs (optional)</b>		
	The inputs are galvanically isolated from the transmitter.	
number	max. 4, on request	
<b>temperature input</b>		
type	Pt100/Pt1000	
connection	4-wire	
range	-238 to +1040 °F	
resolution	0.01 K	
accuracy	±0.01 % of reading ±0.03 K	
<b>current input</b>		
accuracy	0.1 % of reading ±10 µA	
active input	$U_{int} = 24 \text{ V}$ , $R_{int} = 50 \text{ } \Omega$ , $P_{int} < 0.5 \text{ W}$ , not short-circuit proof	
- range	0 to 20 mA	
passive input	$R_{int} = 50 \text{ } \Omega$ , $P_{int} < 0.3 \text{ W}$	
- range	-20 to +20 mA	
<b>voltage input</b>		
range	0 to 1 V	
accuracy	0.1 % of reading ±1 mV	
internal resistance	$R_{int} = 1 \text{ M}\Omega$	
<b>binary input</b>		
switching signal	5 to 30 V, 1 mA	
functions	FM Class I Div. 2: 5 to 26 V, 1 mA	
	- resetting the measured values	
	- resetting the totalizers	
	- stopping the totalizers	

Diagrams



**Dimensions**

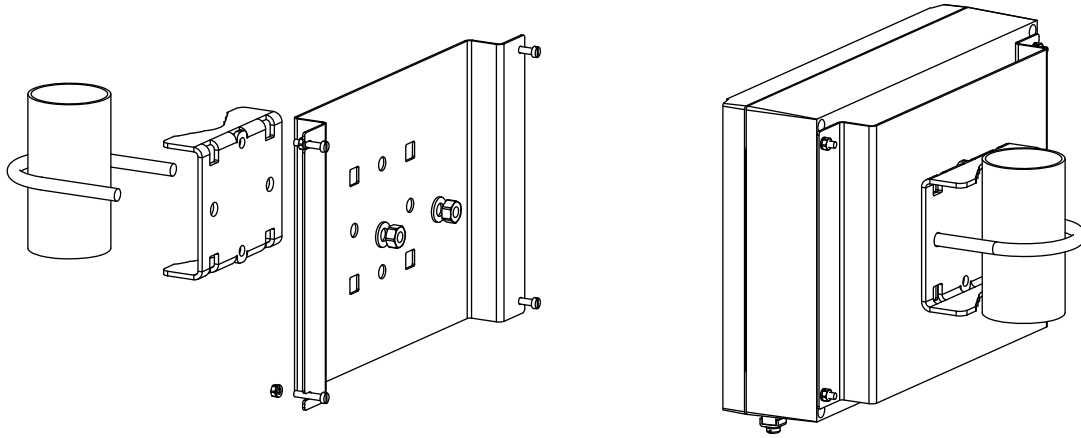




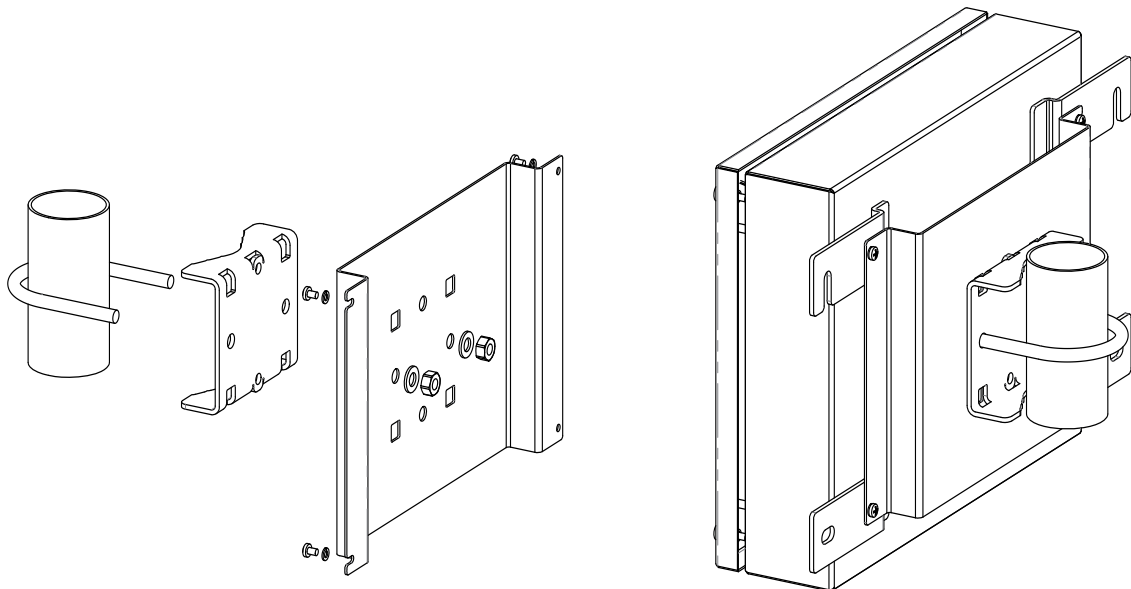
in inch

**2" pipe mounting kit (optional)**

**FLUXUS F704**



**FLUXUS F705**



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