

TURBO-LUX® 3

Fire pump flowmeter for stationary sprinkler systems



The Turbo-Lux® 3 is the world's first and only testing device for fire pumps that has been approved by the three leading testing bodies FM, LPCB, and VdS.

This innovative flowmeter offers you a uniform and international solution for your fire protection systems. You receive a testing device for all nominal sizes from 2"/DN 50 to 12"/DN 300 and measuring ranges from 75 to 38 000 l/min (20 to 10 000 USgpm).

Thanks to its flexible installation position and flow direction, the Turbo-Lux® 3 is versatile.

ADVANTAGES

- » One device for various nominal sizes and measuring ranges
- » The only VdS-certified manufacturer with grooved connection
- » High and consistent reading accuracy
- » Resistant to vibrations
- » Robust and low-maintenance design

The grooved connection allows the orifice flowmeter to be easily connected to the pipe-line network.

Benefit from triple certification and rely on maximum safety and quality with the robust, vibration-resistant, and low-maintenance design.



TECHNICAL DATA

System

Measuring principle	Orifice plate flowmeter with variable flowmeter as indication	Pressure limits	34.5 bar (500 psi) 2"/DN 50 ... 8"/DN 200 - FM
Measuring accuracy	±2.0 % of full scale value - FM		16 bar (232 psi) 10"/DN 250 ... 12"/DN 300 - FM
	±5.0 % of measured value - LPCB		16 bar (232 psi) 2"/DN 50 ... 8"/DN 200 - LPCB, VdS
	±2.5 % of full scale value - VdS	Hydrostatically strength / Pressure strength	69 bar (1 000 psi) for 5 min. - FM
Certificates	FM PR455022		40 bar (580 psi) for 5 min. - LPCB
	LPCB 1385a		64 bar (928 psi) for 10 min. - VdS
	VdS G 415006		

Input

Nominal diameter	2"/DN 50 (Ø 60.3 mm / 2.4 in)	Application conditions	
	2½"/DN 65 (Ø 73.0 mm / 2.9 in)	Temperature range	4 °C ... 50 °C (39 °F ... 122 °F)
	2½"/DN 65 (Ø 76.1 mm / 3.0 in)	Medium	Water
	3"/DN 80 (Ø 88.9 mm / 3.5 in)	Constructive design	
	4"/DN 100 (Ø 114.3 mm / 4.5 in)	Orifice plate 2"/DN 50 ... 4"/DN 100	Housing tube in stainless steel with turned grooved connection
	6"/DN 150 (Ø 165.1 mm / 6.5 in)	Orifice plate 6"/DN 150 ... 12"/DN 300	Housing tube in coated steel with rolled grooved connection
	6"/DN 150 (Ø 168.3 mm / 6.6 in)	Differential pressure tube	Brass
	8"/DN 200 (Ø 219.1 mm / 8.6 in)	Float	Stainless steel
	10"/DN 250 (Ø 273.0 mm / 10.7 in)	Bypass orifice	Stainless steel
	12"/DN 300 (Ø 323.9 mm / 12.8 in)	Filter	Stainless steel
	Gasket	NBR	

INSTALLATION NOTES

Before and after the orifice plate a straight calming section is provided as a function of the nominal diameter (D).

For the installation of valves, pumps, or T-piece pipes, an inlet path of at least $10 \times D$ is required. Of this, at least $5 \times D$ must be a straight section directly in front of the orifice plate.

The outflow zone after the orifice plate must be at least $2 \times D$.

The connected pipelines must be the same size as the orifice plate.

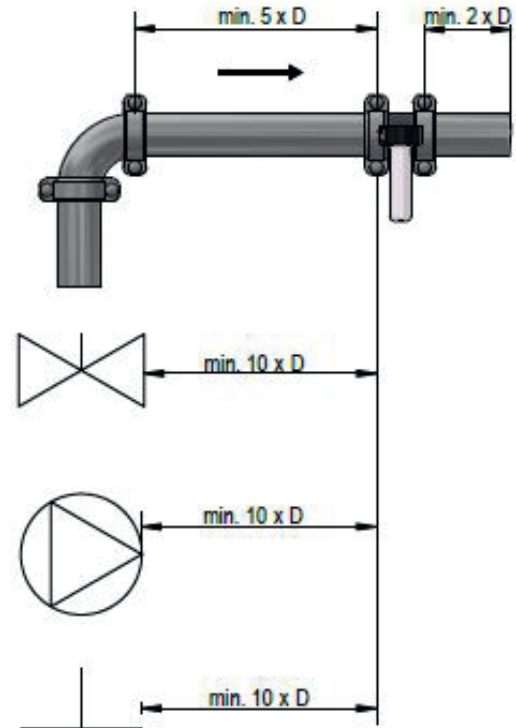


Fig. 1: Inlet path and outflow zone

DIMENSIONS AND WEIGHTS

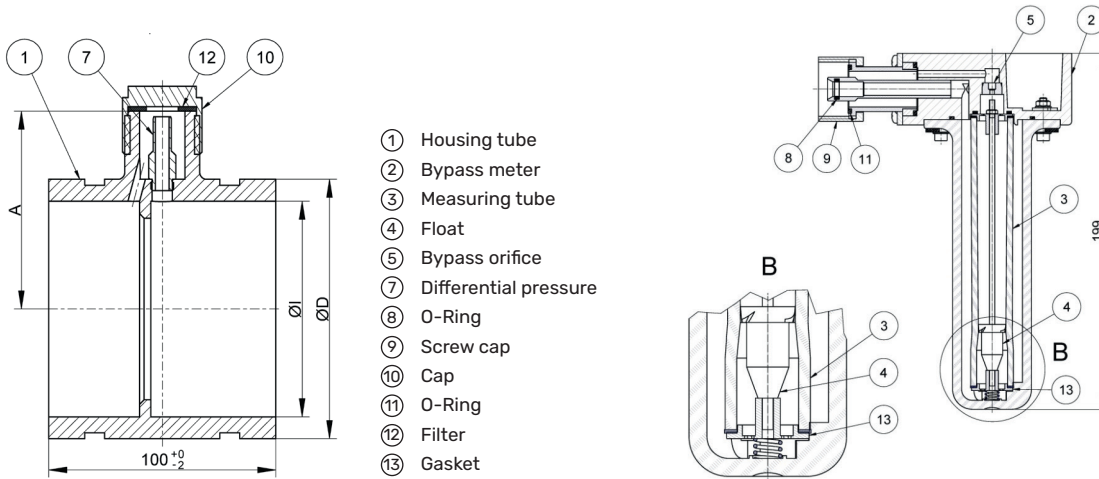


Fig. 2: Turbo-Lux® 3 orifice plate, bypass meter and dimensions for 2"/DN 50 ... 4"/DN 100

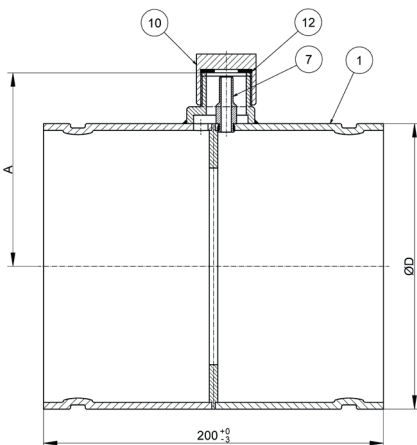


Fig. 3: Turbo-Lux® 3 orifice plate, position drawing and dimensions for 6"/DN 150 ... 12"/DN 300

Nominal diameter	A (mm / in)	ØD (mm / in)	ØI (mm / in)	Weight incl. packing (kg / lbs)
2"/DN 50	60 / 2.4	60.3 / 2.4	53.0 / 2.1	1.6 / 3.5
2½"/DN 65	68 / 2.7	73.0 / 2.9	66.0 / 2.6	2.0 / 4.4
2½"/DN 65	68 / 2.7	76.1 / 3.0	66.0 / 2.6	2.0 / 4.4
3"/DN 80	75 / 3.0	88.9 / 3.5	80.0 / 3.1	2.0 / 4.4
4"/DN 100	87 / 3.4	114.3 / 4.5	100.0 / 3.9	3.0 / 6.6
6"/DN 150	113 / 4.4	165.1 / 6.5	-	4.8 / 10.6
6"/DN 150	114 / 4.5	168.3 / 6.6	-	4.8 / 10,6
8"/DN 200	140 / 5.5	219.1 / 8.6	-	6.3 / 13.9
10"/DN 250	166 / 6.5	273.0 / 10.7	-	9.0 / 19.8
12"/DN 300	192 / 7.6	323.9 / 12.8	-	11.5 / 25.4



PRODUCT AND ACCESSORIES

Nominal diameter	Measuring range	Order code	Bypass meter	Orifice plate			Set measuring accuracy certificate
				Stainless steel	Anthracite	Red	
2"/DN 50 50 USgpm (Ø 60.3 mm / 2.4 in)	20 ... 100 USgpm (75 ... 375 l/min)	TL3A0-EB	X	X			
		TL3A0-EBC	X	X		X	
		TL3B0-EB	X				
		TL3P0-EB		X			
2½"/DN 65 100 USgpm (Ø 73.0 mm / 2.9 in)	40 ... 200 USgpm (150 ... 750 l/min)	TL3A0-UC ¹	X	X			
		TL3A0-UCC ¹	X	X		X	
		TL3B0-UC ¹	X				
		TL3P0-UC ¹		X			
2½"/DN 65 100 USgpm (Ø 76.1 mm / 3.0 in)	40 ... 200 USgpm (150 ... 750 l/min)	TL3A0-FC	X	X			
		TL3A0-FCC	X	X		X	
		TL3B0-FC	X				
		TL3P0-FC		X			
3"/DN 80 150 USgpm (Ø 88.9 mm / 3.5 in)	60 ... 300 USgpm (220 ... 1 100 l/min)	TL3A0-GD	X	X			
		TL3A0-GDC	X	X		X	
		TL3B0-GD	X				
		TL3P0-GD		X			
3"/DN 80 200 USgpm (Ø 88.9 mm / 3.5 in)	80 ... 400 USgpm (300 ... 1 500 l/min)	TL3A0-GE	X	X			
		TL3A0-GEC	X	X		X	
		TL3B0-GE	X				
		TL3P0-GE		X			
4"/DN 100 250 USgpm (Ø 114.3 mm / 4.5 in)	100 ... 500 USgpm (380 ... 1 900 l/min)	TL3A0-HF	X	X			
		TL3A0-HFC	X	X		X	
		TL3B0-HF	X				
		TL3P0-HF		X			
4"/DN 100 300 USgpm (Ø 114.3 mm / 4.5 in)	120 ... 600 USgpm (460 ... 2 300 l/min)	TL3A0-HG	X	X			
		TL3A0-HGC	X	X		X	
		TL3B0-HG	X				
		TL3P0-HG		X			

¹Only available with FM approval



Nominal diameter	Measuring range	Order code	Bypass meter	Orifice plate			Set measuring accuracy certificate
				Stainless steel	Anthracite	Red	
4"/DN 100 400 USgpm (Ø 114.3 mm / 4.5 in)	160 ... 800 USgpm (600 ... 3 000 l/min)	TL3A0-HH	X	X			
		TL3A0-HHC	X	X			X
		TL3B0-HH	X				
		TL3P0-HH		X			
4"/DN 100 450 USgpm (Ø 114.3 mm / 4.5 in)	180 ... 900 USgpm (680 ... 3 400 l/min)	TL3A0-HJ	X	X			
		TL3A0-HJC	X	X			X
		TL3B0-HJ	X				
		TL3P0-HJ		X			
6"/DN 150 500 USgpm (Ø 168.3 mm / 6.6 in)	200 ... 1 000 USgpm (760 ... 3 800 l/min)	TL3A0-KK	X		X		
		TL3A0-KKC	X		X		X
		TL3A0-KKR	X				X
		TL3B0-KK	X				
		TL3P0-KK			X		
		TL3P0-KKR					X
		TL3P0-KKS		X			
6"/DN 150 750 USgpm (Ø 168.3 mm / 6.6 in)	300 ... 1 500 USgpm (1 130 ... 5 650 l/min)	TL3A0-KL	X		X		
		TL3A0-KLC	X		X		X
		TL3A0-KLR	X				X
		TL3B0-KL	X				
		TL3P0-KL			X		
		TL3P0-KLR					X
		TL3P0-KLS		X			
6"/DN 150 1 000 USgpm (Ø 168.3 mm / 6.6 in)	400 ... 2 000 USgpm (1 500 ... 7 000 l/min)	TL3A0-KM	X		X		
		TL3A0-KMC	X		X		X
		TL3A0-KMR	X				X
		TL3B0-KM	X				
		TL3P0-KM			X		
		TL3P0-KMR					X
		TL3P0-KMS		X			



Nominal diameter	Measuring range	Order code	Bypass meter	Orifice plate			Set measuring accuracy certificate
				Stainless steel	Anthracite	Red	
6"/DN 150 1 250 USgpm (Ø 168.3 mm / 6.6 in)	500 ... 2 500 USgpm (1 900 ... 9 500 l/min)	TL3A0-KN	X		X		
		TL3A0-KNC	X		X		X
		TL3A0-KNR	X				X
		TL3B0-KN	X				
		TL3P0-KN				X	
		TL3P0-KNR					X
		TL3P0-KNS		X			
6"/DN 150 500 USgpm (Ø 165.1 mm / 6.5 in)	200 ... 1 000 USgpm (760 ... 3 800 l/min)	TL3A0-XK	X	X			
		TL3A0-XKC	X		X		X
		TL3A0-XKR	X				X
		TL3B0-XK	X				
		TL3P0-XK				X	
		TL3P0-XKR					X
		TL3P0-XKS		X			
6"/DN 150 750 USgpm (Ø 165.1 mm / 6.5 in)	300 ... 1 500 USgpm (1 130 ... 5 650 l/min)	TL3A0-XL	X		X		
		TL3A0-XLC	X		X		X
		TL3A0-XLR	X				X
		TL3B0-XL	X				
		TL3P0-XL				X	
		TL3P0-XLR					X
		TL3P0-XLS		X			
6"/DN 150 1 000 USgpm (Ø 165.1 mm / 6.5 in)	400 ... 2 000 USgpm (1 500 ... 7 500 l/min)	TL3A0-XM	X		X		
		TL3A0-XMC	X		X		X
		TL3A0-XMR	X				X
		TL3B0-XM	X				
		TL3P0-XM				X	
		TL3P0-XMR					X
		TL3P0-XMS		X			
6"/DN 150 1 250 USgpm (Ø 165.1 mm / 6.5 in)	500 ... 2 500 USgpm (1 900 ... 9 500 l/min)	TL3A0-XN	X		X		
		TL3A0-XNC	X		X		X
		TL3A0-XNR	X				X
		TL3B0-XN	X				
		TL3P0-XN				X	
		TL3P0-XNR					X
		TL3P0-XNS		X			



Nominal diameter	Measuring range	Order code	Bypass meter	Orifice plate			Set measuring accuracy certificate
				Stainless steel	Anthracite	Red	
8"/DN 200 1 500 USgpm (Ø 219.1 mm / 8.6 in)	600 ... 3 000 USgpm (2 200 ... 11 000 l/min)	TL3A0-LP	X		X		
		TL3A0-LPC	X		X		X
		TL3A0-LPR	X				X
		TL3B0-LP	X				
		TL3P0-LP				X	
		TL3P0-LPR					X
		TL3P0-LPS		X			
8"/DN 200 2 000 USgpm (Ø 219.1 mm / 8.6 in)	800 ... 4 000 USgpm (3 000 ... 15 000 l/min)	TL3A0-LQ	X		X		
		TL3A0-LQC	X		X		X
		TL3A0-LQR	X				X
		TL3B0-LQ	X				
		TL3P0-LQ				X	
		TL3P0-LQR					X
		TL3P0-LQS		X			
8"/DN 200 2 500 USgpm (Ø 219.1 mm / 8.6 in)	1 000 ... 5 000 USgpm (3 800 ... 19 000 l/min)	TL3A0-LR	X		X		
		TL3A0-LRC	X		X		X
		TL3A0-LRR	X				X
		TL3B0-LR	X				
		TL3P0-LR				X	
		TL3P0-LRR					X
		TL3P0-LRS		X			
8"/DN 200 3 000 USgpm (Ø 219.1 mm / 8.6 in)	1 200 ... 6 000 USgpm (4 500 ... 22 000 l/min)	TL3A0-LS	X		X		
		TL3A0-LSC	X		X		X
		TL3A0-LSR	X				X
		TL3B0-LS	X				
		TL3P0-LS				X	
		TL3P0-LSR					X
		TL3P0-LSS		X			
10"/DN 250 3 500 USgpm (Ø 273.0 mm / 10.7 in)	1 400 ... 7 000 USgpm (5 300 ... 26 500 l/min)	TL3A0-MT ¹	X		X		
		TL3A0-MTC ¹	X		X		X
		TL3A0-MTR ¹	X				X
		TL3B0-MT ¹	X				
		TL3P0-MT ¹				X	
		TL3P0-MTR ¹					X
		TL3P0-MTS ¹		X			

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Nominal diameter	Measuring range	Order code	Bypass meter	Orifice plate			Set measuring accuracy certificate
				Stainless steel	Anthracite	Red	
10"/DN 250 4 000 USgpm (Ø 273.0 mm / 10.7 in)	1 600 ... 8 000 USgpm (6 000 ... 30 000 l/min)	TL3A0-MU ¹	X		X		
		TL3A0-MUR ¹	X			X	
		TL3B0-MU ¹	X				
		TL3P0-MU ¹			X		
		TL3P0-MUR ¹					X
		TL3P0-MUS ¹		X			
10"/DN 250 4 500 USgpm (Ø 273.0 mm / 10.7 in)	1 800 ... 9 000 USgpm (6 800 ... 34 000 l/min)	TL3A0-MV ¹	X		X		
		TL3A0-MVR ¹	X			X	
		TL3B0-MV ¹	X				
		TL3P0-MV ¹			X		
		TL3P0-MVR ¹					X
		TL3P0-MVS ¹		X			
12"/DN 300 5 000 USgpm (Ø 323.9 mm / 12.8 in)	2 000 ... 10 000 USgpm (7 600 ... 38 000 l/min)	TL3A0-NW ¹	X		X		
		TL3A0-NWR ¹	X			X	
		TL3B0-NW ¹	X				
		TL3P0-NW ¹			X		
		TL3P0-NWR ¹					X
		TL3P0-NWS ¹		X			

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REPLACEMENT PARTS

Product	Order code
Replacement cap	ZB-TL3P0-001
Replacement cap stainless steel	ZB-TL3P0-002