



Data Sheet 6.15

Issue D



Cert No. 1385a



3056052



G415006

Flow Meter for Sprinkler System

Model: Turbo Lux 3

General Description

The Turbo-Lux 3 is the first fire pump flow measuring device to be approved by all three approval bodies, LPCB, VdS and FM. With only two components, the Turbo Lux 3 is supplied as standard with ISO6182-12 grooved end connections for ease and speed of installation.

Features

- Nominal size from DN50 / 2" to DN300 / 12"
- Pump flow rate from 185 - 19 000 lpm (50 - 5 000 USgpm)
- Measuring flow range from 75 - 38 000 lpm (20 - 10 000 USgpm)
- Measurement accuracy certificate supplied as standard for the bypass meter (optional calibration certificate)
- Easy to install with grooved connections
- Unique installation assembly, just with one threaded connection (no tools required)
- Can be installed in any angle of pipe, horizontal through to vertical.
- Long life span, stainless steel standard up to DN100

Approvals

FM Approved

LPCB Certificate

VdS Certificate

Technical Data

Measuring principle	Orifice plate flowmeter with variable flowmeter as indication
Nominal Size	DN50/2" grooved ends (Ø60.3 mm) DN65/2½" grooved ends (Ø73.0mm) DN65/2¼" grooved ends (Ø76.1mm) DN80/3" grooved ends (Ø88.9mm) DN100/4" grooved ends (Ø114.3mm) DN150/6" grooved ends (Ø165.1mm) DN150/6" grooved ends (Ø168.3mm) DN200/8" grooved ends (Ø219.1mm) DN250/10" grooved ends (Ø273.0mm) DN300/12" grooved ends (Ø323.9mm)
Max. Working Pressure	16 bar (232 psi)
Hydrostatically strength Pressure Strength	64 bar (928 psi) for 5 min (FM) 40 bar (580 psi) for 5 min (LPCB) 64 bar (928 psi) for 10 min (VdS)
Measuring Accuracy	±2.0% of full scale value (FM) ±5.0% of measured value (LPCB) ±2.5% of full scale value (VdS)
Temperature Range	+4 °C to +50 °C (+39°F to +122°F)
Medium	Water



Materials Specifications

Description	Material
Housing	(2"/DN50 to 4"/DN100) Stainless Steel with turned grooved connection (6"/DN150 to 12"/DN300) Coated Steel with rolled grooved connection*
Differential Pressure Tube	Brass
Float	Stainless Steel
Bypass Orifice	Stainless Steel
Filter	Stainless Steel
Seal	NBR

* Optional in stainless steel with rolled grooved connection

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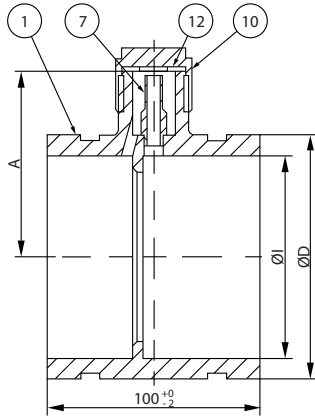
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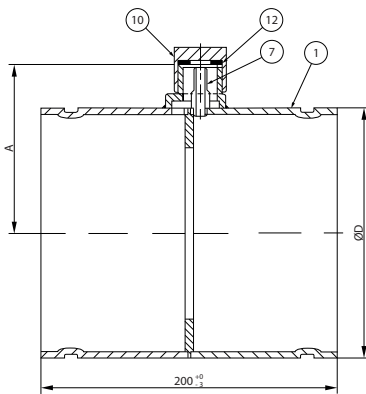
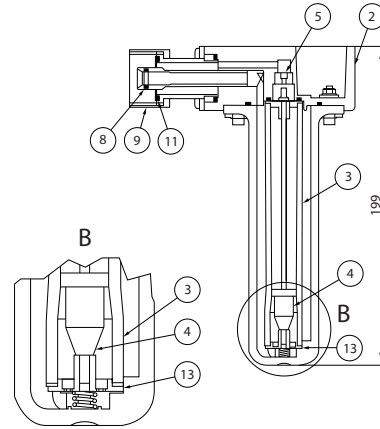
Flow Meter for Sprinkler System

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Dimensions and Weights



Turbo-Lux 3 orifice plate and bypass meter 2"/DN 50 - 4"/DN 100



Turbo-Lux 3 orifice plate 6"/DN 150 - 12"/DN 300

- ① Housing tube
- ② Bypass meter
- ③ Measuring tube
- ④ Float
- ⑤ Bypass orifice
- ⑦ Differential pressure
- ⑧ O-Ring
- ⑨ Screw cap
- ⑩ Cap
- ⑪ O-Ring
- ⑫ Seal
- ⑬ Filter

Nominal Size	Dimensions			Packing Size	Weight incl. packing kg (lbs)
	A (approx)	ØD	ØI		
DN50 / 2"	60mm (2.4")	60.3mm (2.4")	53mm (2.1")	380 x 270 x 250	2.0(4.4)
DN65 / 2 1/2"	68mm (2.7")	76.1mm (3.0")	66mm (2.6")	380 x 270 x 250	2.1(4.6)
DN80 / 3"	75mm (2.9")	88.9mm (3.5")	80mm (3.1")	380 x 270 x 250	2.3(5.1)
DN100 / 4"	87mm (3.4")	114.3mm (4.5")	100mm (3.9")	380 x 270 x 250	3.2(7.0)
DN150 / 6"	113mm (4.4")	165.1mm (6.5")	-	380 x 270 x 250	4.9(10.8)
DN150 / 6"	114mm (4.5")	168.3mm (6.6")	-	380 x 270 x 250	4.9(10.8)
DN200 / 8"	140mm (5.5")	219.1mm (8.6")	-	380 x 270 x 250	6.4(14.1)
DN250 / 10"	166mm (6.5")	273.0mm (10.8")	-	500 x 350 x 300	8.5(18.7)
DN300 / 12"	192mm (7.5")	323.9mm (12.7")	-	500 x 350 x 350	11(24.2)

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Nominal size / Pump rating / Flow range

Nominal Size Grooved ends	Pump Rating	Flow Range		Approvals		
	USgpm	LPM	USgpm	FM	LPCB	VdS
DN50 / 2" (Ø60.3)	50	75 - 375	20 - 100	Yes	Yes	Yes
DN65 / 2 1/2" (Ø73.0)	100	150 - 750	40 - 200	Yes	-	-
DN65 / 2 1/2" (Ø76.1)	100	150 - 750	40 - 200	Yes	Yes	Yes
DN80 / 3" (Ø88.9)	150	220 - 1100	60 - 300	Yes	Yes	Yes
DN80 / 3" (Ø88.9)	200	300 - 1500	80 - 400	Yes	Yes	Yes
DN100 / 4" (Ø114.3)	250	380 - 1900	100 - 500	Yes	Yes	Yes
DN100 / 4" (Ø114.3)	300	460 - 2300	120 - 600	Yes	Yes	Yes
DN100 / 4" (Ø114.3)	400	600 - 3000	160 - 800	Yes	Yes	Yes
DN100 / 4" (Ø114.3)	450	680 - 3400	180 - 900	Yes	Yes	Yes
DN150 / 6" (Ø165.1)	500	760 - 3800	200 - 1000	Yes	Yes	Yes
DN150 / 6" (Ø165.1)	750	1130 - 5650	300 - 1500	Yes	Yes	Yes
DN150 / 6" (Ø165.1)	1000	1500 - 7500	400 - 2000	Yes	Yes	Yes
DN150 / 6" (Ø165.1)	1250	1900 - 9500	500 - 2500	Yes	Yes	Yes
DN150 / 6" (Ø168.3)	500	760 - 3800	200 - 1000	Yes	Yes	Yes
DN150 / 6" (Ø168.3)	750	1130 - 5650	300 - 1500	Yes	Yes	Yes
DN150 / 6" (Ø168.3)	1000	1500 - 7500	400 - 2000	Yes	Yes	Yes
DN150 / 6" (Ø168.3)	1250	1900 - 9500	500 - 2500	Yes	Yes	Yes
DN200 / 8" (Ø219.1)	1500	2200 - 11000	600 - 3000	Yes	Yes	Yes
DN200 / 8" (Ø219.1)	2000	3000 - 15000	800 - 4000	Yes	Yes	Yes
DN200 / 8" (Ø219.1)	2500	3800 - 19000	1000 - 5000	Yes	Yes	Yes
DN200 / 8" (Ø219.1)	3000	4500 - 22500	1200 - 6000	Yes	Yes	Yes*
DN250 / 10" (Ø273.0)	3500	5300 - 26500	1400 - 7000	Yes	-	-
DN250 / 10" (Ø273.0)	4000	6000 - 30000	1600 - 8000	Yes	-	-
DN250 / 10" (Ø273.0)	4500	6800 - 34000	1800 - 9000	Yes	-	-
DN300 / 12" (Ø323.9)	5000	7600 - 38000	2000 - 10000	Yes	-	-

*VdS-limited flow range up to 10 m/s (corresponds to 20 800 lpm)

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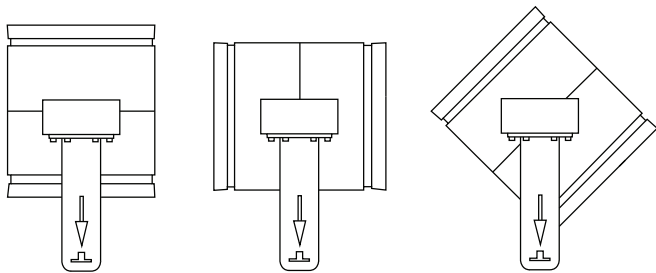


Flow Meter for Sprinkler System

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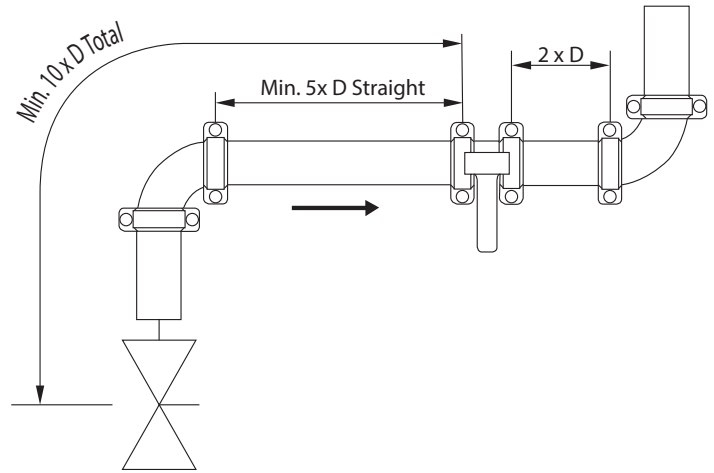
Installation and mode of operation

The orifice plate flowmeter Turbo-Lux 3 consists of an orifice plate unit that is installed in the pipework and a detachable bypass meter. The bypass meter contains a conical glass tube with float. The water flows vertically from top to bottom through the flow tube at the upper end of a side panel. An inlet filter largely prevents the ingress of foreign bodies. The inlet and outlet ports for the bypass are arranged concentrically to ensure easy alignment with the orifice plate unit.



Installation of the orifice plate

At least 5x D (D=pipe diameter) straight section of the pipe must be maintained before the orifice plate and 2x D after. Total 10x D inlet path is required if a valve, pump or pipe fitting is mounted before the flow meter.



Mounting the bypass meter

- The bypass meter is calibrated with the delivered orifice plate. Before installation please ensure that the serial numbers of the orifice plate and the bypass meter match.
- The bypass meter must always be mounted vertically so that the float can move freely within the tube.
- The nut and the cap should only be hand tightened.
- Lubricate both the nut and cap threads.
- The tube should be filled with water slowly to avoid water hammer damage.
- Please ensure that the pipeline is empty before removing the bypass meter.

After Device Usage

After measurements have been taken it is recommended that the measuring tube is either drained by inverting it or removed from the flow meter body. If removed the measurement tube must be drained and stored in the supplied packaging. The open orifice on the flow meter body must be sealed pressure tight with the supplied cap (incl. seal).

Couplings

Do not use installation ready couplings with Turbo Lux 3. The rubber gasket on installation ready couplings is affecting the measurements of Turbo Lux 3.

Installation Ready



Standard





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Ordering Codes	Description
RDT3M050/75-375	Flowmeter Turbolux3 grooved 2"/ DN50 (60,3mm) 75-375 LPM with FM, LPCB, VdS
RDT3M076/150-750	Flowmeter Turbolux3 grooved 2 1/2"/ DN65 (76,1mm) 150-750 LPM with FM, LPCB, VdS
RDT3M080/220-1100	Flowmeter Turbolux3 grooved 3"/ DN80 (88,9mm) 220-1100 LPM with FM, LPCB, VdS
RDT3M080/300-1500	Flowmeter Turbolux3 grooved 3"/ DN80 (88,9mm) 300-1500 LPM with FM, LPCB, VdS
RDT3M100/380-1900	Flowmeter Turbolux3 grooved 4"/ DN100 (114,3mm) 380-1900 LPM with FM, LPCB, VdS
RDT3M100/460-2300	Flowmeter Turbolux3 grooved 4"/ DN100 (114,3mm) 460-2300 LPM with FM, LPCB, VdS
RDT3M100/600-3000	Flowmeter Turbolux3 grooved 4"/ DN100 (114,3mm) 600-3000 LPM with FM, LPCB, VdS
RDT3M100/680-3400	Flowmeter Turbolux3 grooved 4"/ DN100 (114,3mm) 680-3400 LPM with FM, LPCB, VdS
RDT3M150/760-3800	Flowmeter Turbolux3 grooved 6"/ DN150 (165,1mm) 760-3800 LPM with FM, LPCB, VdS
RDT3M150/1130-5650	Flowmeter Turbolux3 grooved 6"/ DN150 (165,1mm) 1130-5650 LPM with FM, LPCB, VdS
RDT3M150/1500-7500	Flowmeter Turbolux3 grooved 6"/ DN150 (165,1mm) 1500-7500 LPM with FM, LPCB, VdS
RDT3M150/1900-9500	Flowmeter Turbolux3 grooved 6"/ DN150 (165,1mm) 1900-9500 LPM with FM, LPCB, VdS
RDT3M168/760-3800	Flowmeter Turbolux3 grooved 6"/ DN150 (168,3mm) 760-3800 LPM with FM, LPCB, VdS
RDT3M168/1130-5650	Flowmeter Turbolux3 grooved 6"/ DN150 (168,3mm) 1130-5650 LPM with FM, LPCB, VdS
RDT3M168/1500-7500	Flowmeter Turbolux3 grooved 6"/ DN150 (168,3mm) 1500-7500 LPM with FM, LPCB, VdS
RDT3M168/1900-9500	Flowmeter Turbolux3 grooved 6"/ DN150 (168,3mm) 1900-9500 LPM with FM, LPCB, VdS
RDT3M200/2200-11000	Flowmeter Turbolux3 grooved 8"/ DN200 (219,1mm) 2200-11000 LPM with FM, LPCB, VdS
RDT3M200/3000-15000	Flowmeter Turbolux3 grooved 8"/ DN200 (219,1mm) 3000-15000 LPM with FM, LPCB, VdS
RDT3M200/3800-19000	Flowmeter Turbolux3 grooved 8"/ DN200 (219,1mm) 3800-19000 LPM with FM, LPCB, VdS
RDT3M200/4500-22500	Flowmeter Turbolux3 grooved 8"/ DN200 (219,1mm) 4500-22500 LPM with FM, LPCB, VdS
RDT3M250/5300-26500	Flowmeter Turbolux3 grooved 10"/ DN250 (273,0mm) 5300-26500 LPM with FM approval
RDT3M250/6000-30000	Flowmeter Turbolux3 grooved 10"/ DN250 (273,0mm) 6000-30000 LPM with FM approval
RDT3M250/6800-34000	Flowmeter Turbolux3 grooved 10"/ DN250 (273,0mm) 6800-34000 LPM with FM approval
RDT3M300/7600-38000	Flowmeter Turbolux3 grooved 12"/ DN300 (323,9mm) 7600-38000 LPM with FM approval
RDT3MCERT	Calibration Certificate (SET Orifice and Bypass Flowmeter)
RDT3MBYPASS	Bypass Flowmeter (Replacement)
RDT3MCAP	Replacement cap (incl. gasket)

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