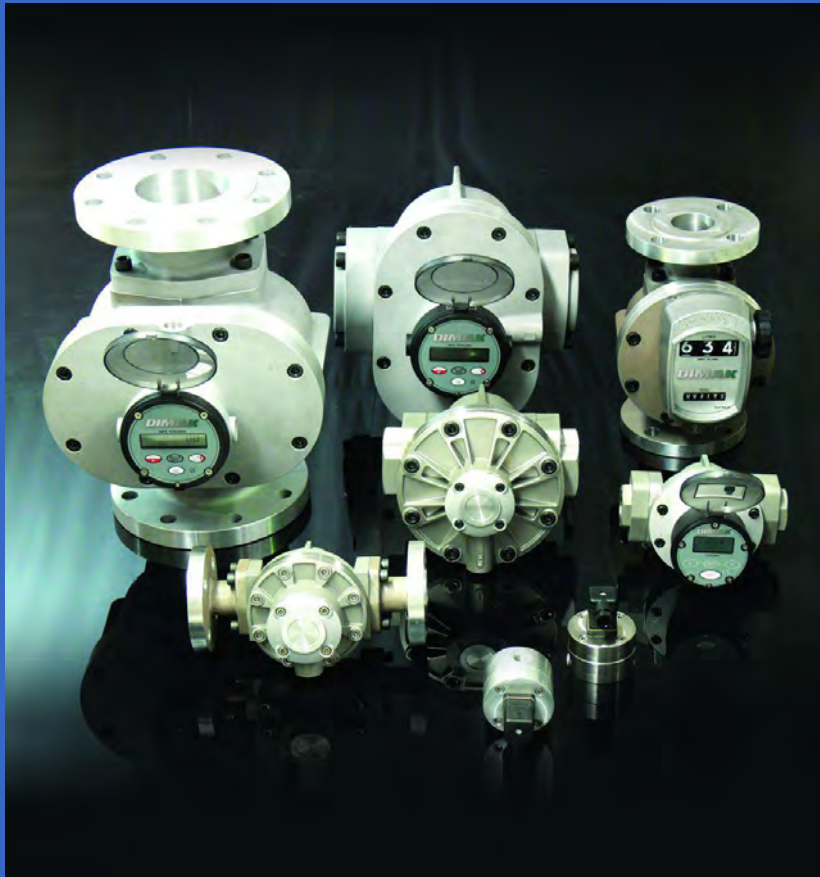


POSITIVE DISPLACEMENT METERS



Designed &
priced for
overall appeal

Proudly manufactured in Australia





PRINCIPLE OF OPERATION

The oval gear flowmeters are positive displacement flowmeters where the passage of liquid causes two oval gears to rotate within a precision measuring chamber and with each rotation a fixed volume of liquid passes through the meter. Magnets embedded within the gears initiate a high resolution train output. The pulse output can be wired directly to process control and monitoring equipment or can be used as an input to instruments supplied with or directly onto the meter.



Design Excellence Leads To Better Performance

Among the many PD flowmeter design principles available today, the oval gear meter still holds a top place both in simplicity and field proven performance.

The inside story reveals a robust positive displacement oval gear flowmeter range incorporating patented innovations and features that bring many benefits to market.

Overview

Dimak provide a range of oval gear flowmeters which provide high levels of accuracy and repeatability for a wide range of most clean liquids irrespective of viscosity and conductivity, including fuel oils, additives, chemicals, food bases, paints, viscous emulsions, insecticides, alcohol and solvents, either pumped or gravity fed.

Features

- Modular process connections
- No requirement for flow conditioning
- High accuracy, repeatability and reliability
- Wide turndown (min. ~max. flow)
- Ultimate rotor stability (all metal rotors)
- Dual outputs (reed and hall effect) standard
- Hyperpulse high resolution pulse output
- Hazardous area versions
- Bi-directional flow capability
- Quadrature pulse output option



Small Capacity Flowmeters

Dimak small capacity flowmeters provide precise measurement of small quantities of liquids or low flow found in a broad range of industrial and commercial industries including automotive, aviation, mining, power, chemical, pharmaceutical, food, paint, medical engineering, petroleum and environmental.

Application include additives for fuel, consumer products, water treatment, flotation cells and defoaming plants, corrosion inhibitors, perfumes, catalysts, emulsifiers, oils, grease, glues, ink and insecticides.

General Specifications*

Flow range : 0.5~50 L/H (0.16~145 USGPH)

Nominal Sizes : 4 ~8 mm (1/8"~3/8")

Linearity : +/- 1% of reading

Repeatability : +/- 0.03% repeatability

Temperature : -20~+120 °C (-4~250°F)

Materials : 316 St St or Aluminium

Pulse outputs : reed switch & NPN open collector (standard)

(* for full specifications see page 7)

STANDARD OPTIONS:

- LCD totaliser
- LCD Flow rate totaliser
- LCD two stage batch controller
- Intrinsically Safe (I.S.) instruments
- 4~20mA, scaled pulse and alarm outputs
- Quadrature pulse output

(see ancillaries for further details on integral and remote options)



Medium Capacity Flowmeters

Dimak medium capacity flowmeters find widespread application in industry to monitor and control liquid flow streams and allow for precise dispensing of small to medium batch runs. They also have extensive application in the distribution of fuels, fuel oils, lubricants, alcohols, solvent and the blending bio and ethanol fuels.

General Specifications*

Flow range : 1~450 L/M (0.26~120 USGPM)

Nominal Sizes : 15~50 mm (1/2"~2")

Linearity : +/- 0.5% of reading

Repeatability : +/- 0.03% repeatability

Temperature : -20~+120 °C (-4~250°F)

Materials : 316 St St or Aluminium

Pulse outputs : reed switch & NPN open collector (standard)

(* for full specifications see page 7)

STANDARD OPTIONS:

- Modular process connections
- LCD totaliser
- LCD Flow rate totaliser
- LCD two stage batch controller
- Intrinsically Safe (I.S.) instruments
- 4~20mA, scaled pulse and alarm outputs
- Quadrature pulse output
- Integral mechanical totaliser / batch register

(see ancillaries for further details on integral and remote options)





Large Capacity Flowmeters

Dimak large 3" and 4" capacity flowmeters are highly competitive meters suited for receipt verification, loading, un-loading and distribution management at petroleum depots, mine sites, marine and aviation facilities. Common transfer applications involve fuels, oils, solvents, alcohols along with the blending of bio and ethanol fuels.

The meters are relatively compact and lightweight in construction, important benefits when used in mobile installations or within confined spaces.

General Specifications*

Flow range	: 50~1500 L/M (13~400 USGPM)
Nominal Sizes	: 80 & 100 mm (3" and 4")
Linearity	: +/- 0.2% 15:1 turndown
Repeatability	: +/- 0.03% repeatability
Temperature	: -20~+120 °C (-4~250°F)
Materials	: Aluminium or Ductile Iron
Pulse outputs	: reed switch & NPN open collector (standard)

(* for full specifications see page 7)

STANDARD OPTIONS:

- Modular process connections
- LCD totaliser
- LCD Flow rate totaliser
- LCD two stage batch controller
- Intrinsically Safe (I.S.) instruments
- 4~29mA, scaled pulse and alarm outputs
- Quadrature pulse output
- Integral mechanical totaliser batch register

(see ancillaries for further details on integral and remote options)

DIMAK ANCILLARIES

- Field programmable electronics
- Scrolling English prompts
- Remote or integral meter mounting
- Easy to read displays

BATTERY POWERED TOTALISER

Simultaneously displays resettable (batch) total & cumulative total in engineering units as programmed by the user. When externally dc powered the instrument will produce an un-scaled or scalable solid state output which is NPN / PNP selectable.

Available with intrinsically safe (I.S.) certification.



BATTERY POWERED FLOW RATE TOTALISER

Displays instantaneous flow rate, resettable (batch) total or a cumulative total in engineering units as programmed by the user. When externally powered this instrument will produce an un-scaled or scalable solid state pulse, 4~20mA & flow alarm outputs & non-linearity correction & dual flow input functions.

Available as intrinsically safe (I.S.) certification.



BATCH CONTROLLER

Provides automatic batch control with one or two stage outputs. The display provides batch quantity as well as status at each stage of the batch process. Batch limiting & no-flow detection are safety features & automatic overrun compensation & dual stage outputs provide for precise batch control. Other features include remote stop/start, system interlocks, totalised display & multiple batch controller networking.



MECHANICAL REGISTERS

As an alternative to electronic totalisers, robust mechanical registers with metal housing offer 3 or 4 large resettable digits & 6 or 8 digit cumulative total clearly visible for loading & un-loading sites at petroleum depots, mining, construction & marine facilities.

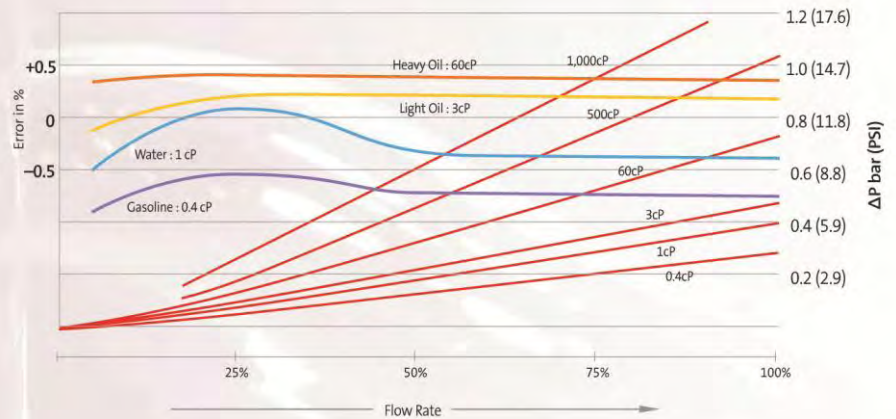


PERFORMANCE SPECIFICATIONS

Flowrate de-rating guide

Viscosities (cp)	Max. flow multiplier
up to 1200	1.0
1200~4000	0.6
up to 6000	0.5
up to 10000	0.4
up to 20000	0.3
40000 max.	0.16
60000 max.	0.12
100000 max.	0.08
200000 max.	0.06
400000 max.	0.05
600000 max.	0.04
up to 1000000	0.03

Accuracy & pressure drop



GENERAL SPECIFICATIONS

Model prefix :	OM004	OM006	OM008	OM015	OM025	OM040	OM050	OM080	OM080E	OM100	OM100E
	small capacity			medium capacity				large capacity			
Nominal size mm (")	4mm (1/8")	6mm (1/4")	8mm (3/8)	15mm (1/2")	25mm (1")	40mm (1.5")	50mm (2")	80mm (3")	80mm (3")	100mm (4")	100mm (4")
* Flow range (LPH) litres / min	(0.5~36)	(2~100)	(15~550)	1~40	10~150	15~250	30~450	35~750	50~1000	75~1500	150~2500
(GPH) USG / min	(0.13~9.5)	(0.5~27)	(4~145)	0.26~10.6	2.6~40	2.6~66	8~120	10~200	13~260	20~400	20~400
**Accuracy @ 3cp	+/- 1% of reading			+/- 0.5% of reading				+/- 0.2% of reading (15:1 turndown)			
Repeatability	typically ± 0.03% (accuracy is +/- % of reading with optional RT12 with non-linearity correction)										
Temperature range	-20°C ~ +120°C (-4°F ~ +250°F, refer factory for lower temperature)										
Maximum pressure (threaded meters)	bar (PSI)										
Aluminium	16 (220)			68 (1000)	68 (1000)	30 (440)	20 (300)	12 (180)	12 (180)	10 (150)	10 (150)
316L stainless	34 (500)			100 (1500)	100 (1500)	100 (1500)	38 (560)	-	-	-	-
ductile iron	351 (5150)			-	-	-	-	12 (180)	12 (180)	10 (150)	10 (150)
high pressure stainless	refer factory										
Electrical - for pulse meters (see also optional outputs)											
Output pulse resolution	pulses / litre (pulses / US gallon) - nominal										
Reed switch	2890 (10940)	2100 (79500)	355 (1345)	83 (314)	27 (102)	13 (50)	6.5 (24.7)	2.32 (8.8)	1.55 (5.87)	1.1 (4.15)	0.56 (2.1)
Hall effect	2890 (10940)	2100 (79500)	710 (2690)	166 (628)	107 (405)	52.6 (200)	26.1 (99)	9.3 (35.2)	6.2 (23.5)	4.4 (16.6)	2.24 (8.5)
Quadrature Hall option	2890 (10940)	2100 (79500)	710 (2690)	166 (628)	54 (204)	26.3 (100)	13 (49)	4.65 (17.6)	3.1 (11.8)	2.2 (8.3)	1.12 (4.24)
Reed switch output	30Vdc x 200mA max. (Maximum thermal shock 10°C (50°F) / minute)										
Hall effect output (NPN)	3, 4, 5, 6 wire open collector, 5~24Vdc, 20mA max.										
Optional outputs	4-20mA, scaled pulse quadrature pulse, flow alarms or two stage batch control										
Physical											
Protection class	IP66/67 (NEMA4X), optional Exd IIB T6, integral ancillaries can be supplied I.S. (Intrinsically Safe)										
Overall dimensions	refer data sheet										
Recommended filtration	75 microns (200 mesh)			150 microns (100 mesh)				350 microns (40 mesh)			
* Maximum flow is to be reduced as viscosity increases. See flow de-rating guide. Max. allowable pressure drop is 100 kPa (15 psi)											
* Maximum flow may be increased by 10% for intermittent refuelling periods											
** Accuracy +/-1% of reading with mechanical registers.											

MODEL CODING

OM004	4mm (1/8")	Aluminium or stainless steel
OM006	6mm (1/4")	Aluminium or stainless steel
OM008	8mm (3/8")	Aluminium or stainless steel
OM015	15mm (1/2")	Aluminium or stainless steel
OM025	25mm (1")	Aluminium or stainless steel
OM040	40mm (1 1/2")	Aluminium or stainless steel
OM050	50mm (2")	Aluminium or stainless steel
OM080	80mm (3")	Aluminium or stainless steel
OM080E	80mm (3" high flow)	Aluminium or stainless steel
OM100	100mm (4")	Aluminium or stainless steel
OM100E	100mm (4" high flow)	Aluminium or stainless steel

Body material

A	Aluminium
S	316 Stainless Steel
H	High Pressure 316 Stainless Steel
D	Ductile Iron

Rotor material

4	Aluminium
5	316 Stainless Steel
9	Application specific

Bearing type

1	Ceramic
4	Hardened steel roller bearings (aluminium rotors)

O-ring material

1	Viton (standard) -15~+200°C (-5~+400°F)
2	Ethylene Propylene Rubber -(EPR)
3	Teflon encapsulated viton
4	Buna-N (Nitrile) -65~+100°C (-53~+212°F)

Temperature limits

-	2	120°C (250°F) - see note 1
-	3	150°C (300°F) (Hall effect output only-OM004~OM008)
-	5	120°C (250°F)(Includes integral cooling fin)-see note 2
-	8	80°C (175°F) Mechanical Registers only

Process connections

1	BSP female threaded
2	NPT female threaded
3	*Tri-clamp hygienic ferrules
4	ANSI-150 RF flanges
5	ANSI-300 RF flanges
6	PN16 DIN flanges
9	Customer nominated

* Triclamp ferrules are 1/2" larger than meter size

Cable entries

with B2 & B3 options only	0	3~6mm cable gland
	1	M20 x 1.5mm
	2	1/2" NPT

Model No. Example

OM025 **A** **4** **4** **1** - **5** **1** **1** **R2** (refer factory for model availability)

Integral options

2 NPN open collector phased outputs	QP	Quadrature pulse output
IECEX & ATEX approved	E1	Explosion proof ~ Exd
IECEX & ATEX approved	Q1	Exd with Quadrature pulse
Accum. & reset totals, pulse output	B2	BT11 dual totaliser
IECEX & ATEX approved	B3	Intrinsically safe BT11 (I.S.)
Flow rate, totals & all outputs	R2	RT12 Flow Rate Totaliser
IECEX & ATEX approved	R3	Intrinsically safe RT12 (I.S.)
dc Ecobatch two stage control	E0	EB10 batch controller
M* = M1 litres M2 US gallons	M*	3 digit mechanical totaliser
M* = M3 litres M4 US gallons	M*	4 digit mechanical totaliser

(1) 120 °C (250 °F) for pulse meters, 80 °C (180 °F) rating with BT, RT & EB options.

See temperature code 5 for higher temperature with BT, RT, & EB

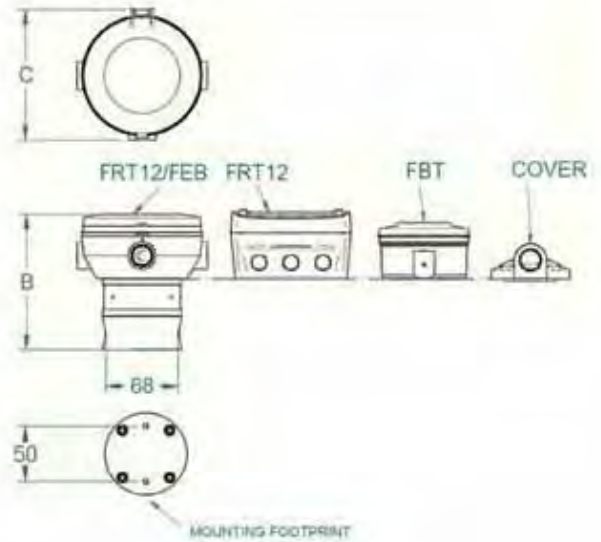
(2) Cooling fin fitted with LCD instruments for operation from 80~120 °C (180~250 °F)

Dimensions and Weights

OM004 ~ OM008

(All dimensions in millimeters +/- 2mm)

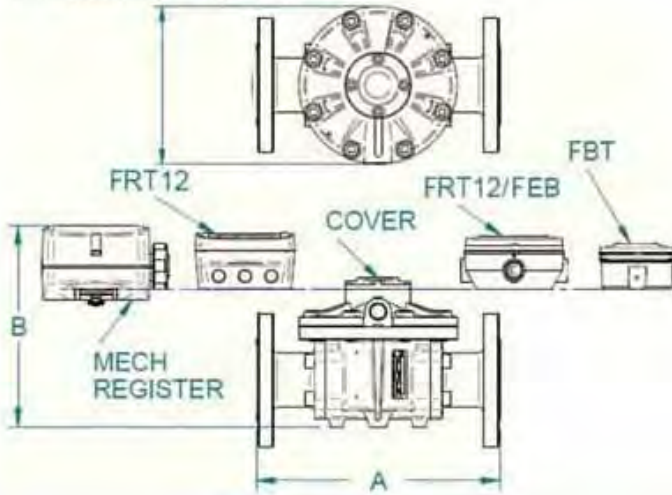
	B	B	B	C
Option	OM004	OM006	OM008	All
FR12/EB	122	122	129	124
FRT12	125	125	132	96
FBT	113	113	120	94
Cover	92	92	99	72
Aluminium Pulse (Kg)	0.8	0.8	0.8	-
Stainless Steel Pulse (Kg)	1.5	1.5	1.5	-



OM015 ~ OM050

(All dimensions in millimeters +/- 2mm)

⌀160 (OM040) ⌀180 (OM050)
⌀110 (OM015) ⌀120 (OM025)



WEIGHT (KG)	OM015	OM025	OM040	OM050
Aluminium Mechanical	2.6	3.8	7.6	9.6
Aluminium Pulse	1.7	3	5	8.6
St / St Mechanical	4	7	15	16.3
St / St Pulse	2.95	5.4	12	15

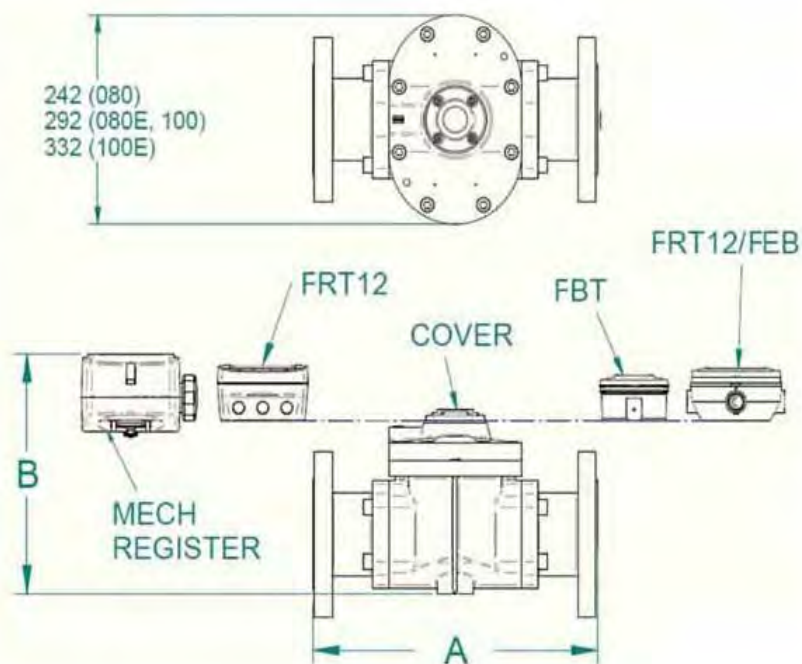
	A	A	A	A	A	A	A	A
Modular Fitting	OM015-A	OM015-S	OM025-A	OM025-S	OM040-A	OM040-S	OM050-A	OM050-S
A.N.S.I. 150	-	-	198	237	252	252	277	277
DIN16	-	-	198	237	252	252	277	277
JIS 10K	-	-	198	237	252	252	277	277
B.S.P.	110	110	137	176	188	188	212	212
N.P.T.	110	110	137	176	188	188	212	212

	B	B	B	B	B	B	B	B
Configuration	OM015-A	OM015-S	OM025-A	OM025-S	OM040-A	OM040-S	OM050-A	OM050-S
RT12 / EB Register	154	148	168	165	203	194	218	218
BT Register	145	139	160	157	195	186	210	210
RT12 Register	157	151	171	168	206	197	221	221
Cover	106	100	120	117	155	146	170	170
Mechanical Register	178	178	188	214	227	222	237	237

Dimensions and Weights

OM080 ~ OM100

(All dimensions in millimeters +/- 2mm)



	A	A	A	A	A		B	B	B	B	B
Modular Fitting	DM080-A	DM080-S	DM080-E	DM100-A	DM100-E	Configuratiwn	DM080-A	DM080-S	DM080-E	DM100-A	DM100-E
A.N.S.I.150	354	354	382	388	414	FRT12/FEB Register	260	257	277	322	399
DIN 16	354	354	382	388	414	FBT Register	252	249	269	314	391
JIS 10K	354	354	382	388	414	FRT12 Register	264	260	281	326	403
B.S.P	266	266	294	294	320	Cover	213	206	229	274	352
N.PT	266	266	294	294	320	Mech. Register	270	N/A	288	333	416

Weight (kg)	DM080	DM080-E	DM100-A	DM100-E
Aluminium Mechanical	15	22	24	28
Aluminium Pulse	14	20	23	26
S/Steel Mechanical	32	-	-	-
S/Steel Pulse	30	-	-	-

"Y" – Strainer Specifications

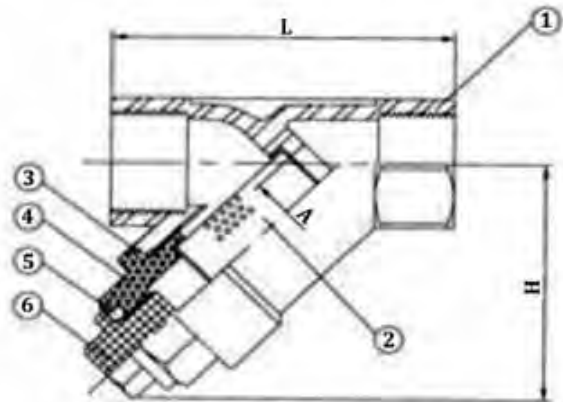


"Y" Strainer Specifications

Body	ASTM A-A-351 Grade CF8M
Screen	DN8 DN15 - 80
Packing	PTFE
Working Pressure	800PSI
End Connections	Threaded Male

Materials List

No.	Part Name	Material
1	Body	CF8M
2	Screen	SS316
3	Gasket	PTFE
4	Bonnet	CF8M
5	O-Ring	Viton
6	Plug	CF8M



Model	Size	A	L	H	Mesh Size	Size (mm)
D-ST008	DN8	10	65	51	200 Mesh	1/4" (6mm)
D-ST010	DN10	12	65	51	200 Mesh	3/8" (10mm)
D-ST015	DN15	15	65	51	100 Mesh	1/2" (13mm)
D-ST025	DN25	25	90	72	100 Mesh	1" (25mm)
D-ST040	DN40	40	120	87	100 Mesh	1 1/2" (38mm)
D-ST050	DN50	50	140	103	100 Mesh	2" (50mm)
D-ST080	DN80	80	200	143	40 Mesh	3" (80mm)

Dimak Flowmeters are supplied through Trimec Flow Products, an ISO9001:2008 certified company.

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ISO 9001:2008
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