

MX-SERIES FLOW METERS

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DIGITAL FLOW METERS

The Digital Flow Meter range are the latest innovation from Macnaught. They feature billet construction* offering optimal operational reliability and accuracy. Supplied with an individual Test Report, these meters are also marked with the actual K factor from calibration testing for an accuracy of $\pm 0.5\%$. Their construction is modular allowing for simple in situ maintenance and system changes.

EXPLODED DIAGRAM

Output

Macnaught offer a range of digital output and display options that will suit most applications. Choose between display based on application needs

Port connection

Based on desired pipe connection

Meter size

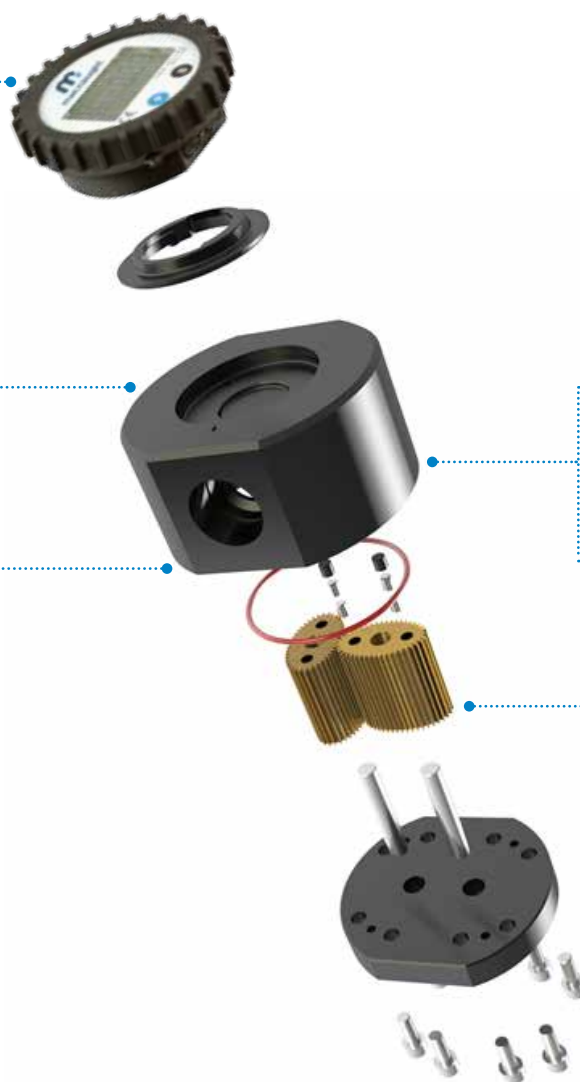
Choose meter size based on flow rate desired

Materials of construction

Choose material based on pressure and fluid type

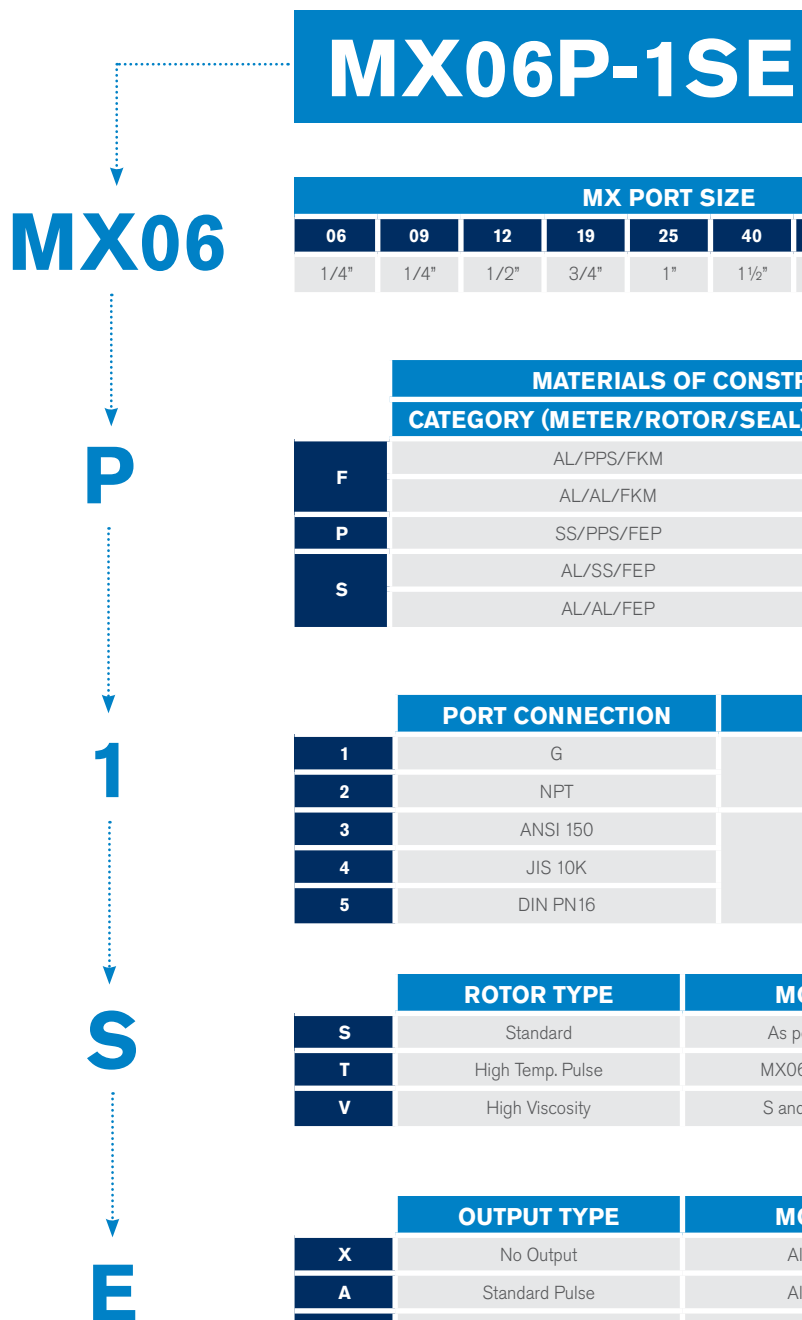
Rotor type

Select rotor type based on the viscosity of the fluid and fluid type



*Billet construction across the MX meters up to 2"

PRODUCT IDENTIFICATION SYSTEM



MX PORT SIZE								
06	09	12	19	25	40	50	75	100
1/4"	1/4"	1/2"	3/4"	1"	1 1/2"	2"	3"	4"

MATERIALS OF CONSTRUCTION		
	CATEGORY (METER/ROTOR/SEAL)	MODELS
F	AL/PPS/FKM	MX06-50
	AL/AL/FKM	MX75-100
P	SS/PPS/FEP	MX06-50
S	AL/SS/FEP	MX06-25
	AL/AL/FEP	MX40-100

	PORT CONNECTION	MODEL
1	G	All Models
2	NPT	
3	ANSI 150	MX25-100
4	JIS 10K	
5	DIN PN16	

	ROTOR TYPE	MODELS
S	Standard	As per category
T	High Temp. Pulse	MX06P - MX50P
V	High Viscosity	S and P category

	OUTPUT TYPE	MODELS
X	No Output	All Models
A	Standard Pulse	All Models
B	Ex approved (Ex ia)	Consult Macnaught Technical regarding availability
D	PR (LCD 12mm display)	All Models
E	PRA (LCD 12mm display)	All Models
F	ER (LCD 17mm display)	All Models*
G	ERA (LCD 17mm display)	All Models*
H	ERB (LCD 17mm display)	All Models*
N	Ex Approved (Ex ia NAMUR)	Consult Macnaught Technical regarding availability
T	High Temperature	All Models
I	Reed/Reed	Consult Macnaught Technical regarding availability
J	Hall/Hall	
K	High Resolution (omnipolar)	

MX06 – 1/4" DIGITAL FLOW METERS

SUITABLE FOR FLOW RANGE 0.5-100L/HR



MX06P-1SE
Stainless steel body with LCD register

Output variations:



B - Ex approved (Ex ia)
Intrinsically Safe - NPN
N - Ex approved (Ex ia)
Intrinsically Safe - NAMUR
T - High Temp. Pulse
Max temp- 150°C



F - ER
LCD Display (17mm)
G- ERA
LCD Display (17mm)
H- ERB
LCD Display (17mm)
Batch controller



D - PR
LCD Display (12mm)
E - PRA
LCD Display (12mm)
with outputs



A - Standard Pulse
Reel/Hall Effect
I - Standard Pulse
Reel/Reed Effect
J - Standard Pulse
Hall/Hall Effect
K - High Resolution
Hall NPN

The MX06 1/4" Digital Flow Meters are suitable for flows between 0.5-100L/hr. The 1/4" Digital Flow Meters have an accuracy of +/- 0.5% and provides exceptional levels of reliability and durability.

SPECIFICATIONS

	MX06F	MX06S	MX06P
Materials of Construction			
Meter Body	Aluminium (6061)	Aluminium (6061)	Stainless Steel (316)
Rotor	PPS	Stainless Steel (316)	PPS Stainless Steel (316)
Seals	Fluorocarbon (FKM)	PTFE Encapsulated (FEP)	PTFE Encapsulated (FEP)
Design Specifications			
Process Connections	1/4" G 1/4" NPT	1/4" G 1/4" NPT	1/4" G 1/4" NPT
Technical Specifications			
Flow rate	<5cP 2-100L/hr 0.5-26USG/hr >5cP 0.5-100L/hr 0.13-26USG/hr	<5cP 2-100L/hr 0.5-26USG/hr >5cP 0.5-100L/hr 0.13-26USG/hr	<5cP 2-100L/hr 0.5-26USG/hr >5cP 0.5-100L/hr 0.13-26USG/hr
Non-lubricating fluids	6-100L/hr 1.58-26USG/hr	6-100L/hr 1.58-26USG/hr	6-100L/hr 1.58-26USG/hr
Operating Temperature Range*	-40 - 80°C -40 - 176°F	-40 - 120°C -40 - 248°F	-40 - 80°C (150°C with high temp. rotors) -40 - 176°F (302°F with high temp. rotors)
Max. Operating Pressure	1000psi 69bar	1000psi 69bar	1000psi 69bar
Accuracy	+/- 0.5%	+/- 0.5%	+/- 0.5%
Repeatability	+/- 0.03%	+/- 0.03%	+/- 0.03%
Nominal K-Factor	1000 Pulses/L	1000 Pulses/L	1000 Pulses/L

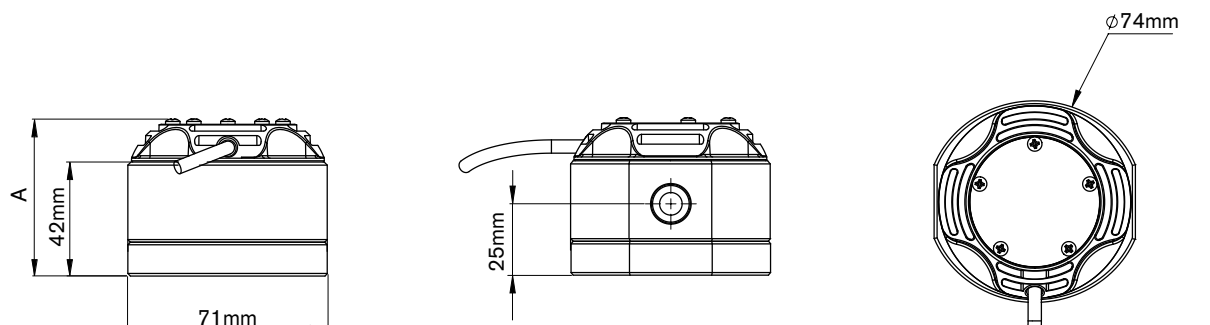
*Temperature based on standard pulse output - subject to change dependant on rotor and output type, contact Macnaught technical support for further investigations

OUTPUTS TYPES

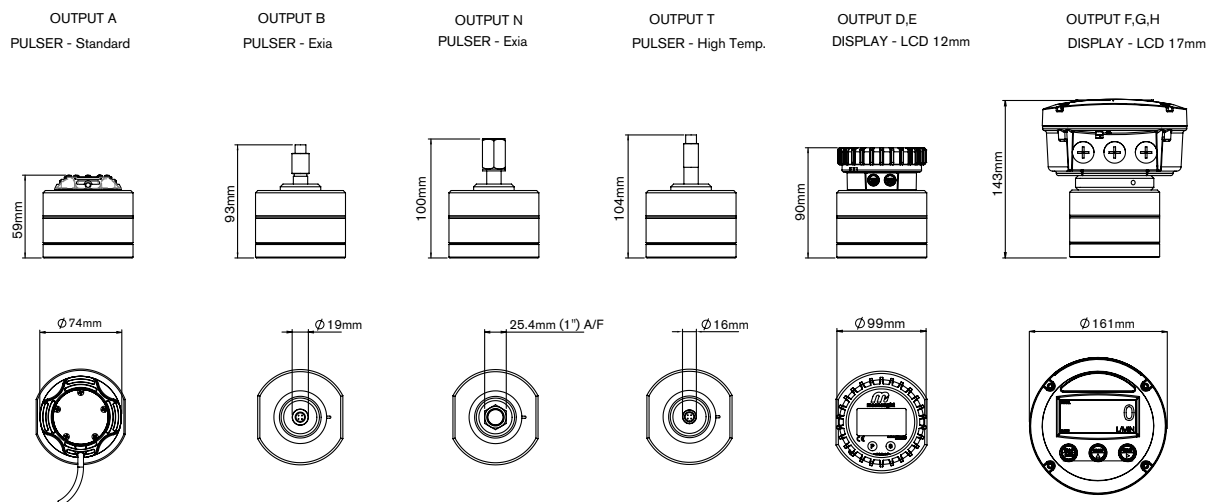
	DESCRIPTION	SWITCH TYPE	OUTPUT TYPE	MX06F	MX06S	MX06P
X	No Output	-	No Output	●	●	●
A	Standard Pulse	Reed /Hall (NPN)	Pulse (1 m flying lead)	●	●	●
B	Ex approved (Ex ia)	Hall (NPN)	Pulse (2m DIN cable)	—	●	●
D	PR (LCD 12mm display)	-	Display 12mm	●	●	●
E	PRA (LCD 12mm display)	-	Display 12mm, 4-20mA output, Pulse	●	●	●
F	ER (LCD 17mm display)	-	Display 17mm	●	●	●
G	ERA (LCD 17mm display)	-	Display 17mm, 4-20mA output, Pulse	●	●	●
H	ERB (LCD 17mm display)	-	Display 17mm + Batch Control	●	●	●
N	Ex Approved (Ex ia NAMUR)	NAMUR	Pulse (2m DIN cable)	—	●	●
T	High Temp. Pulseerature	Hall (NPN)	Pulse	✗	S	S
I	Reed/Reed	Reed/Reed	Pulse (1 m flying lead)	—	—	—
J	Hall/Hall	Hall/Hall	Pulse (1 m flying lead)	—	—	—
K	High Resolution (omnipolar)	Hall (NPN)	Pulse (1 m flying lead)	—	—	—

● Available ✗ Not Available S Only with stainless steel rotors — Consult Macnaught Technical regarding availability

DIMENSIONS



PULSER AND DISPLAY HEIGHT - A



MX09 – 1/4" DIGITAL FLOW METERS

SUITABLE FOR FLOW RANGE 15-500L/HR



MX09P-1SE
Stainless steel body with LCD register

Output variations:



B - Ex approved (Ex ia)
Intrinsically Safe - NPN
N - Ex approved (Ex ia)
Intrinsically Safe - NAMUR
T - High Temp. Pulse
Max temp- 150°C



F - ER
LCD Display (17mm)
G- ERA
LCD Display (17mm)
H- ERB
LCD Display (17mm)
Batch controller



D - PR
LCD Display (12mm)
E - PRA
LCD Display (12mm)
with outputs



A - Standard Pulse
Reel/Hall Effect
I - Standard Pulse
Reel/Reed Effect
J - Standard Pulse
Hall/Hall Effect
K - High Resolution
Hall NPN

The MX09 1/4" Digital Flow Meters are suitable for flows between 15-500L/hr. The 1/4" Digital Flow Meters have an accuracy of +/- 0.5% and provides exceptional levels of reliability and durability.

SPECIFICATIONS

	MX09F	MX09S	MX09P
Materials of Construction Meter Body	Aluminium (6061)	Aluminium (6061)	Stainless Steel (316)
Rotor	PPS	Stainless Steel (316)	PPS Stainless Steel (316)
Seals	Fluorocarbon (FKM)	PTFE encapsulated (FEP)	PTFE encapsulated (FEP)
Design Specifications Process Connections	Threaded 1/4" G 1/4" NPT	Threaded 1/4" G 1/4" NPT	Threaded 1/4" G 1/4" NPT
Technical Specifications Flow rate	<5cP 25-500L/hr 6.6-132USG/hr >5cP 15-500L/hr 4-132USG/hr	<5cP 25-500L/hr 6.6-132USG/hr >5cP 15-500L/hr 4-132USG/hr	<5cP 25-500L/hr 6.6-132USG/hr >5cP 15-500L/hr 4-132USG/hr
Operating Temperature Range*	-40 - 80°C -40 - 176°F	-40 - 120°C -40 - 248°F	-40 - 80°C (150°C with high temp. rotors) -40 - 176°F (302°F with high temp. rotors)
Max. Operating Pressure	1000psi 69bar	1000psi 69bar	1000psi 69bar
Accuracy	+/- 0.5%	+/- 0.5%	+/- 0.5%
Repeatability	+/- 0.03%	+/- 0.03%	+/- 0.03%
Nominal K-Factor	400 Pulses/L	400 Pulses/L	400 Pulses/L

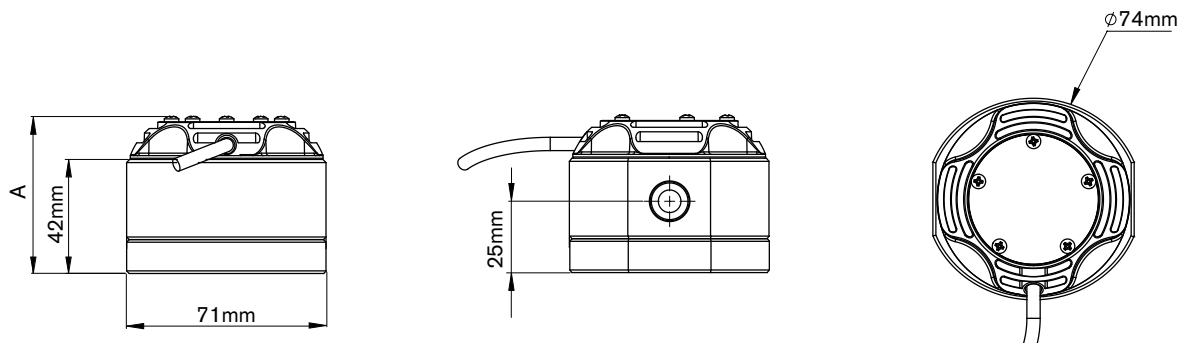
*Temperature based on standard pulse output - subject to change dependant on rotor and output type, contact Macnaught technical support for further investigations

OUTPUTS TYPES

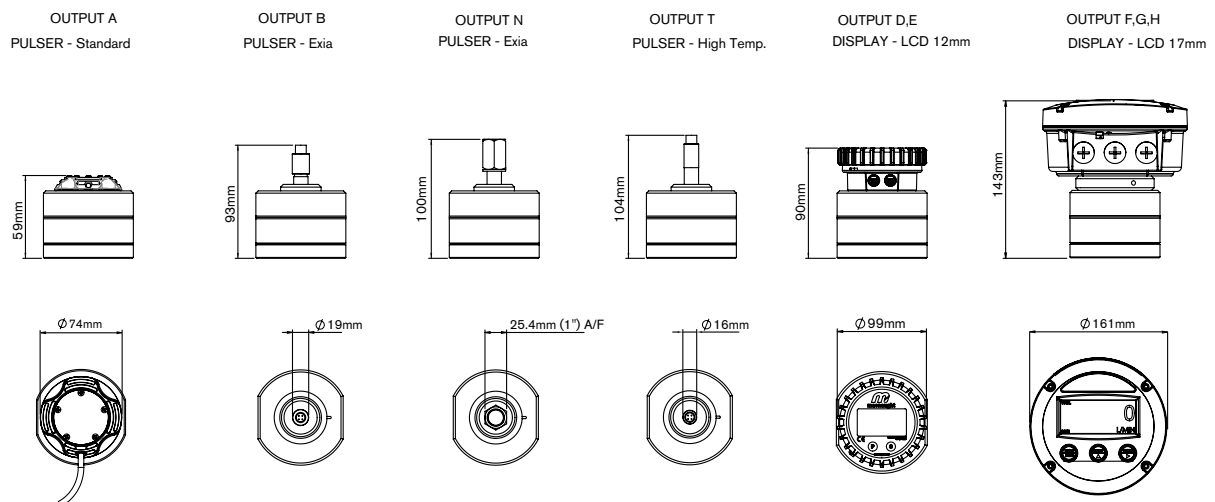
	DESCRIPTION	SWITCH TYPE	OUTPUT TYPE	MX09F	MX09S	MX09P
X	No Output	-	No Output	●	●	●
A	Standard Pulse	Reed /Hall (NPN)	Pulse (1 m flying lead)	●	●	●
B	Ex approved (Ex ia)	Hall (NPN)	Pulse (2m DIN cable)	—	●	●
D	PR (LCD 12mm display)	-	Display 12mm	●	●	●
E	PRA (LCD 12mm display)	-	Display 12mm, 4-20mA output, Pulse	●	●	●
F	ER (LCD 17mm display)	-	Display 17mm	●	●	●
G	ERA (LCD 17mm display)	-	Display 17mm, 4-20mA output, Pulse	●	●	●
H	ERB (LCD 17mm display)	-	Display 17mm + Batch Control	●	●	●
N	Ex Approved (Ex ia NAMUR)	NAMUR	Pulse (2m DIN cable)	—	●	●
T	High Temp. Pulseerature	Hall (NPN)	Pulse	✗	S	S
I	Reed/Reed	Reed/Reed	Pulse (1 m flying lead)	—	—	—
J	Hall/Hall	Hall/Hall	Pulse (1 m flying lead)	—	—	—
K	High Resolution (omnipolar)	Hall (NPN)	Pulse (1 m flying lead)	—	—	—

● Available ✗ Not Available S Only with stainless steel rotors — Consult Macnaught Technical regarding availability

DIMENSIONS



PULSER AND DISPLAY HEIGHT - A



MX12 – ½” DIGITAL FLOW METERS

SUITABLE FOR FLOW RANGE 2-30L/MIN

MX-SERIES FLOW METERS



MX12P-1SE
Stainless steel body with LCD register

Output variations:



B - Ex approved (Ex ia)
Intrinsically Safe - NPN
N - Ex approved (Ex ia)
Intrinsically Safe - NAMUR
T - High Temp. Pulse
Max temp- 150°C



F - ER
LCD Display (17mm)
G- ERA
LCD Display (17mm)
H- ERB
LCD Display (17mm)
Batch controller



D - PR
LCD Display (12mm)
E - PRA
LCD Display (12mm)
with outputs



A - Standard Pulse
Reel/Hall Effect
I - Standard Pulse
Reel/Reed Effect
J - Standard Pulse
Hall/Hall Effect
K - High Resolution
Hall NPN

The MX12 ½” Digital Flow Meters are suitable for flows between 2-30L/min. The ½” Digital Flow Meters have an accuracy of +/- 0.5% and provides exceptional levels of reliability and durability.

SPECIFICATIONS

	MX12F	MX12S	MX12P
Materials of Construction Meter Body	Aluminium (6061)	Aluminium (6061)	Stainless Steel (316)
Rotor	PPS	Stainless Steel (316)	PPS Stainless Steel (316)
Seals	Fluorocarbon (FKM)	PTFE encapsulated (FEP)	PTFE encapsulated (FEP)
Design Specifications Process Connections	Threaded ½” G ½” NPT	Threaded ½” G ½” NPT	Threaded ½” G ½” NPT
Technical Specifications Flow rate	<5cP 3-25L/min 0.6-6.6USG/min	<5cP 3-25L/min 0.6-6.6USG/min	<5cP 3-25L/min 0.6-6.6USG/min
	>5cP 2-30L/min 0.5-8USG/min	>5cP 2-30L/min 0.5-8USG/min	>5cP 2-30L/min 0.5-8USG/min
Operating Temperature Range*	-40 - 80°C -40 - 176°F	-40 - 120°C -40 - 248°F	-40 - 80°C (150°C with high temp. rotors) -40 - 176°F (302°F with high temp. rotors)
Max. Operating Pressure	2000 psi 138 Bar	2000 psi 138 Bar	2000 psi 138 Bar
Accuracy	+/- 0.5%	+/- 0.5%	+/- 0.5%
Repeatability	+/- 0.03%	+/- 0.03%	+/- 0.03%
Nominal K-Factor	112 Pulses/L	112 Pulses/L	112 Pulses/L

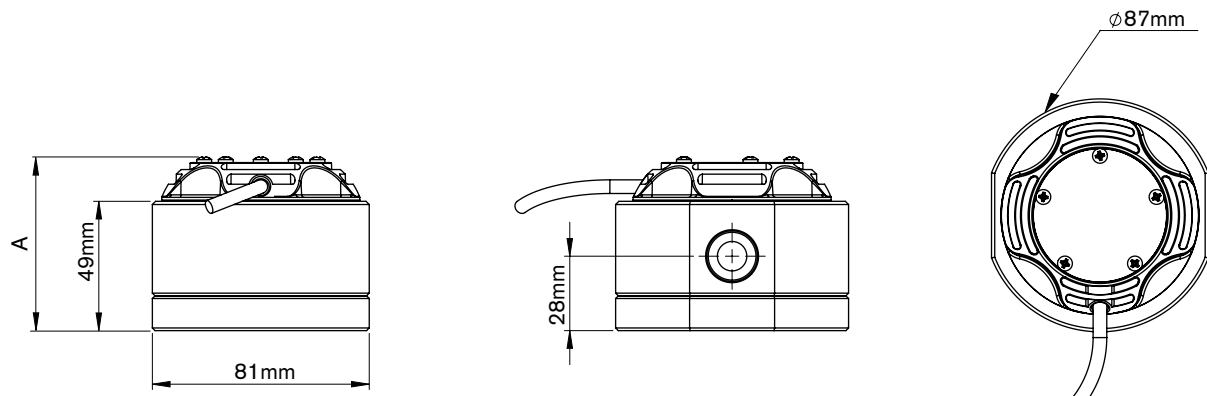
*Temperature based on standard pulse output - subject to change dependant on rotor and output type, contact Macnaught technical support for further investigations

OUTPUTS TYPES

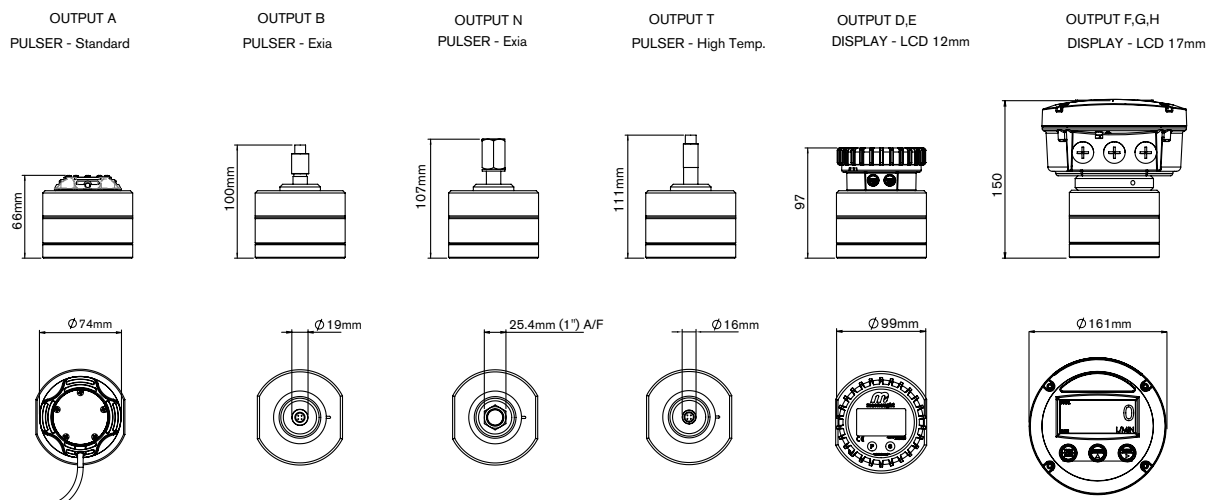
	DESCRIPTION	SWITCH TYPE	OUTPUT TYPE	MX12F	MX12S	MX12P
X	No Output	-	No Output	●	●	●
A	Standard Pulse	Reed /Hall (NPN)	Pulse (1 m flying lead)	●	●	●
B	Ex approved (Ex ia)	Hall (NPN)	Pulse (2m DIN cable)	—	●	●
D	PR (LCD 12mm display)	-	Display 12mm	●	●	●
E	PRA (LCD 12mm display)	-	Display 12mm, 4-20mA output, Pulse	●	●	●
F	ER (LCD 17mm display)	-	Display 17mm	●	●	●
G	ERA (LCD 17mm display)	-	Display 17mm, 4-20mA output, Pulse	●	●	●
H	ERB (LCD 17mm display)	-	Display 17mm + Batch Control	●	●	●
N	Ex Approved (Ex ia NAMUR)	NAMUR	Pulse (2m DIN cable)	—	●	●
T	High Temp. Pulseerature	Hall (NPN)	Pulse	✗	S	S
I	Reed/Reed	Reed/Reed	Pulse (1 m flying lead)	—	—	—
J	Hall/Hall	Hall/Hall	Pulse (1 m flying lead)	—	—	—
K	High Resolution (omnipolar)	Hall (NPN)	Pulse (1 m flying lead)	—	—	—

● Available ✗ Not Available S Only with stainless steel rotors — Consult Macnaught Technical regarding availability

DIMENSIONS



PULSER AND DISPLAY HEIGHT - A



MX19 – 3/4" DIGITAL FLOW METERS

SUITABLE FOR FLOW RANGE 3-80L/MIN



MX19P-1SE
Stainless steel body with LCD register

Output variations:



B - Ex approved (Ex ia)
Intrinsically Safe - NPN
N - Ex approved (Ex ia)
Intrinsically Safe - NAMUR
T - High Temp. Pulse
Max temp- 150°C



F - ER
LCD Display (17mm)
G- ERA
LCD Display (17mm)
H- ERB
LCD Display (17mm)
Batch controller



D - PR
LCD Display (12mm)
E - PRA
LCD Display (12mm)
with outputs



A - Standard Pulse
Reel/Hall Effect
I - Standard Pulse
Reel/Reed Effect
J - Standard Pulse
Hall/Hall Effect
K - High Resolution
Hall NPN

The MX19 3/4" Digital Flow Meters are suitable for flows between 3-80L/min. The 3/4" Digital Flow Meters have an accuracy of +/- 0.5% and provides exceptional levels of reliability and durability.

SPECIFICATIONS

	MX19F	MX19S	MX19P
Materials of Construction Meter Body	Aluminium (6061)	Aluminium (6061)	Stainless Steel (316)
Rotor	PPS	Stainless Steel (316)	PPS Stainless Steel (316)
Seals	Fluorocarbon (FKM)	PTFE encapsulated (FEP)	PTFE encapsulated (FEP)
Design Specifications Process Connections	Threaded 3/4" G 3/4" NPT	Threaded 3/4" G 3/4" NPT	Threaded 3/4" G 3/4" NPT
Technical Specifications Flow rate	<5cP 8-70L/min 2-18.5USG/min >5cP 3-80L/min 0.8-21USG/min	<5cP 8-70L/min 2-18.5USG/min >5cP 3-80L/min 0.8-21USG/min	<5cP 8-70L/min 2-18.5USG/min >5cP 3-80L/min 0.8-21USG/min
Operating Temperature Range*	-40 - 80°C -40 - 176°F	-40 - 120°C -40 - 248°F	-40 - 80°C (150°C with high temp. rotors) -40 - 176°F (302°F with high temp. rotors)
Max. Operating Pressure	2000 psi 138 Bar	2000 psi 138 Bar	2000 psi 138 Bar
Accuracy	+/- 0.5%	+/- 0.5%	+/- 0.5%
Repeatability	+/- 0.03%	+/- 0.03%	+/- 0.03%
Nominal K-Factor	52 Pulses/L	52 Pulses/L	52 Pulses/L

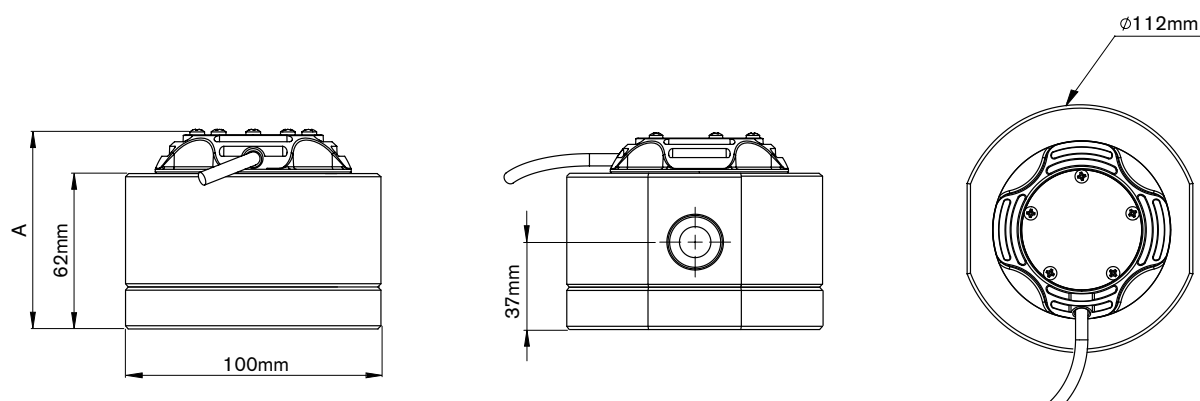
*Temperature based on standard pulse output - subject to change dependant on rotor and output type, contact Macnaught technical support for further investigations

OUTPUTS TYPES

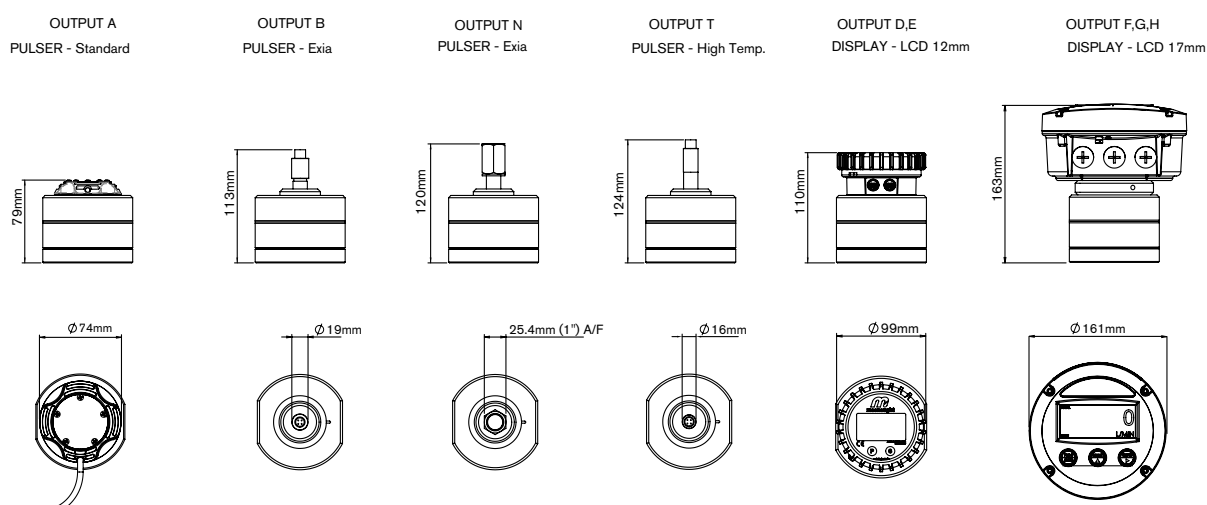
	DESCRIPTION	SWITCH TYPE	OUTPUT TYPE	MX19F	MX19S	MX19P
X	No Output	-	No Output	●	●	●
A	Standard Pulse	Reed /Hall (NPN)	Pulse (1 m flying lead)	●	●	●
B	Ex approved (Ex ia)	Hall (NPN)	Pulse (2m DIN cable)	—	●	●
D	PR (LCD 12mm display)	-	Display 12mm	●	●	●
E	PRA (LCD 12mm display)	-	Display 12mm, 4-20mA output, Pulse	●	●	●
F	ER (LCD 17mm display)	-	Display 17mm	●	●	●
G	ERA (LCD 17mm display)	-	Display 17mm, 4-20mA output, Pulse	●	●	●
H	ERB (LCD 17mm display)	-	Display 17mm + Batch Control	●	●	●
N	Ex Approved (Ex ia NAMUR)	NAMUR	Pulse (2m DIN cable)	—	●	●
T	High Temp. Pulseerature	Hall (NPN)	Pulse	✗	S	S
I	Reed/Reed	Reed/Reed	Pulse (1 m flying lead)	—	—	—
J	Hall/Hall	Hall/Hall	Pulse (1 m flying lead)	—	—	—
K	High Resolution (omnipolar)	Hall (NPN)	Pulse (1 m flying lead)	—	—	—

● Available ✗ Not Available S Only with stainless steel rotors — Consult Macnaught Technical regarding availability

DIMENSIONS



PULSER AND DISPLAY HEIGHT - A



MX25 – 1" DIGITAL FLOW METERS

SUITABLE FOR FLOW RANGE 6-120L/MIN



MX25P-1SE
Stainless steel body with LCD register

Output variations:



B - Ex approved (Ex ia)
Intrinsically Safe - NPN
N - Ex approved (Ex ia)
Intrinsically Safe - NAMUR
T - High Temp. Pulse
Max temp- 150°C



F - ER
LCD Display (17mm)
G- ERA
LCD Display (17mm)
H- ERB
LCD Display (17mm)
Batch controller



D - PR
LCD Display (12mm)
E - PRA
LCD Display (12mm)
with outputs



A - Standard Pulse
Reel/Hall Effect
I - Standard Pulse
Reel/Reed Effect
J - Standard Pulse
Hall/Hall Effect
K - High Resolution
Hall NPN

The MX25 1" Digital Flow Meters are suitable for flows between 6-120L/min. The 1" Digital Flow Meters have an accuracy of +/- 0.5% and provides exceptional levels of reliability and durability.

SPECIFICATIONS

	MX25F		MX25S		MX25P	
Materials of Construction Meter Body	Aluminium (6061)		Aluminium (6061)		Stainless Steel (316)	
	Rotor		Stainless Steel (316)		PPS Stainless Steel (316)	
	Seals		PTFE encapsulated (FEP)		PTFE encapsulated (FEP)	
Design Specifications Process Connections	Threaded 1" G 1" NPT		Threaded 1" G 1" NPT		Threaded 1" G 1" NPT	
	Flange ANSI CLASS 150 DIN PN16 JIS 10k		Flange ANSI CLASS 150 DIN PN16 JIS 10k		Flange ANSI CLASS 150 DIN PN16 JIS 10k	
Technical Specifications Flow rate	<5cP 10-100L/min 2.6-26USG/min		<5cP 10-100L/min 2.6-26USG/min		<5cP 10-100L/min 2.6-26USG/min	
	>5cP 6-120L/min 1.6-32USG/min		>5cP 6-120L/min 1.6-32USG/min		>5cP 6-120L/min 1.6-32USG/min	
	Operating Temperature Range*		Operating Temperature Range*		Operating Temperature Range*	
	-40 - 80°C -40 - 176°F		-40 - 120°C -40 - 248°F		-40 - 80°C (150°C with high temp. rotors) -40 - 176°F (302°F with high temp. rotors)	
	Max. Operating Pressure**		Max. Operating Pressure**		Max. Operating Pressure**	
	2000 psi 138 Bar		2000 psi 138 Bar		2000 psi 138 Bar	
	Accuracy		Accuracy		Accuracy	
Repeatability	+/- 0.5%		+/- 0.5%		+/- 0.5%	
	+/- 0.03%		+/- 0.03%		+/- 0.03%	
Nominal K-Factor	36 Pulses/L		36 Pulses/L		36 Pulses/L	

*Temperature based on standard pulse output - subject to change dependant on rotor and output type, contact Macnaught technical support for further investigations

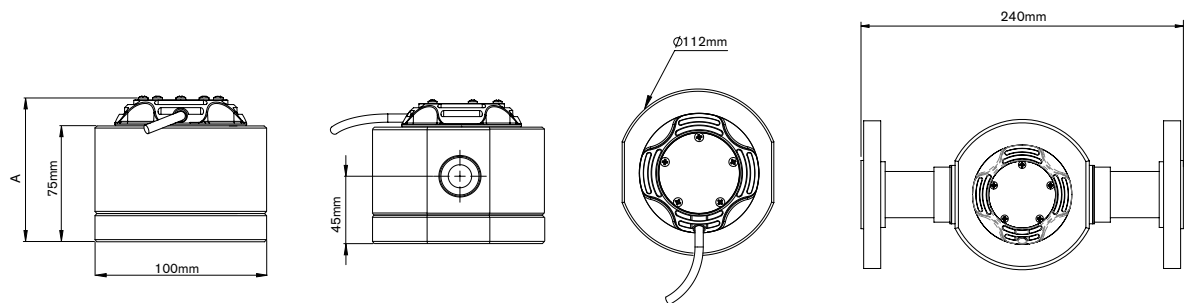
** Pressure rating subject to change as per flange rating

OUTPUTS TYPES

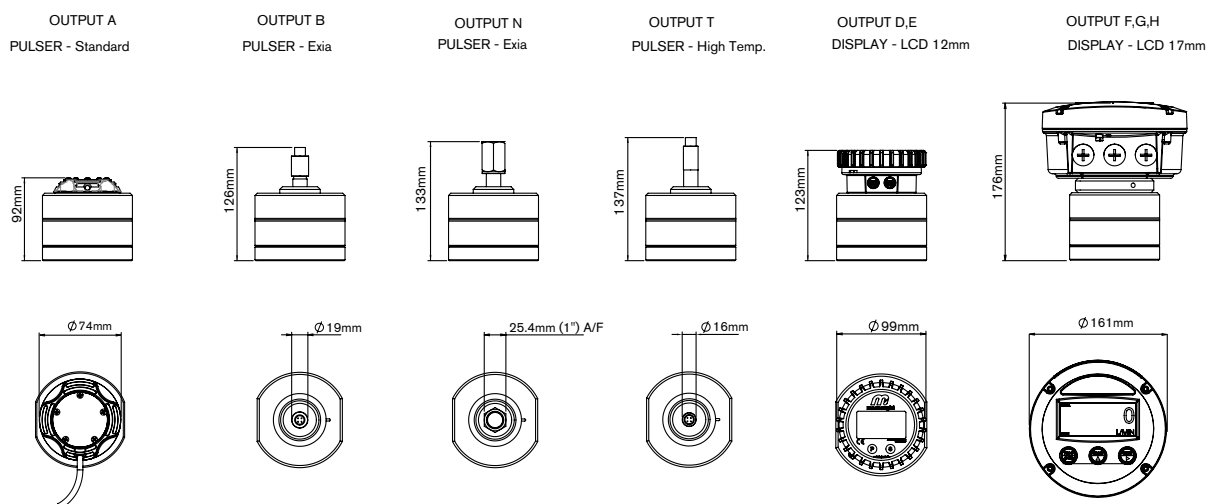
	DESCRIPTION	SWITCH TYPE	OUTPUT TYPE	MX25F	MX25S	MX25P
X	No Output	-	No Output	●	●	●
A	Standard Pulse	Reed /Hall (NPN)	Pulse (1 m flying lead)	●	●	●
B	Ex approved (Ex ia)	Hall (NPN)	Pulse (2m DIN cable)	—	●	●
D	PR (LCD 12mm display)	-	Display 12mm	●	●	●
E	PRA (LCD 12mm display)	-	Display 12mm, 4-20mA output, Pulse	●	●	●
F	ER (LCD 17mm display)	-	Display 17mm	●	●	●
G	ERA (LCD 17mm display)	-	Display 17mm, 4-20mA output, Pulse	●	●	●
H	ERB (LCD 17mm display)	-	Display 17mm + Batch Control	●	●	●
N	Ex Approved (Ex ia NAMUR)	NAMUR	Pulse (2m DIN cable)	—	●	●
T	High Temp. Pulseerature	Hall (NPN)	Pulse	✗	S	S
I	Reed/Reed	Reed/Reed	Pulse (1 m flying lead)	—	—	—
J	Hall/Hall	Hall/Hall	Pulse (1 m flying lead)	—	—	—
K	High Resolution (omnipolar)	Hall (NPN)	Pulse (1 m flying lead)	—	—	—

● Available ✗ Not Available S Only with stainless steel rotors — Consult Macnaught Technical regarding availability

DIMENSIONS



PULSAR AND DISPLAY HEIGHT - A



MX40 – 1½” DIGITAL FLOW METERS

SUITABLE FOR FLOW RANGE 10-250L/MIN



MX40P-1SE
Stainless steel body with LCD register

Output variations:



B - Ex approved (Ex ia)
Intrinsically Safe - NPN
N - Ex approved (Ex ia)
Intrinsically Safe - NAMUR
T - High Temp. Pulse
Max temp- 150°C



F - ER
LCD Display (17mm)
G- ERA
LCD Display (17mm)
H- ERB
LCD Display (17mm)
Batch controller



D - PR
LCD Display (12mm)
E - PRA
LCD Display (12mm)
with outputs



A - Standard Pulse
Reel/Hall Effect
I - Standard Pulse
Reel/Reed Effect
J - Standard Pulse
Hall/Hall Effect
K - High Resolution
Hall NPN

The MX40 1½” Digital Flow Meters are suitable for flows between 10-250L/min. The 1½” Digital Flow Meters have an accuracy of +/- 0.5% and provides exceptional levels of reliability and durability.

SPECIFICATIONS

	MX40F		MX40S		MX40P	
Materials of Construction Meter Body Rotor Seals	Aluminium (6061)		Aluminium (6061)		Stainless Steel (316)	
	PPS		Aluminium (6061)		PPS Stainless Steel (316)	
	Fluorocarbon (FKM)		PTFE encapsulated (FEP)		PTFE encapsulated (FEP)	
Design Specifications Process Connections	Threaded 1½” G 1½” NPT	Flange ANSI CLASS 150 DIN PN16 JIS 10k	Threaded 1½” G 1½” NPT	Flange ANSI CLASS 150 DIN PN16 JIS 10k	Threaded 1½” G 1½” NPT	Flange ANSI CLASS 150 DIN PN16 JIS 10k
Technical Specifications Flow rate Operating Temperature Range* Max. Operating Pressure** Accuracy Repeatability Nominal K-Factor	<5cP 15-235L/min 4-62USG/min	>5cP 10-250L/min 2.6-66USG/min	<5cP 15-235L/min 4-62USG/min	>5cP 10-250L/min 2.6-66USG/min	<5cP 15-235L/min 4-62USG/min	>5cP 10-250L/min 2.6-66USG/min
	-40 - 80°C -40 - 176°F		-40 - 120°C -40 - 248°F		-40 - 80°C (150°C with high temp. rotors) -40 - 176°F (302°F with high temp. rotors)	
	1500 psi 103 Bar		1500 psi 103 Bar		1500 psi 103 Bar	
	+/- 0.5%		+/- 0.5%		+/- 0.5%	
	+/- 0.03%		+/- 0.03%		+/- 0.03%	
	14.5 Pulses/L		14.5 Pulses/L		14.5 Pulses/L	

*Temperature based on standard pulse output - subject to change dependant on rotor and output type, contact Macnaught technical support for further investigations

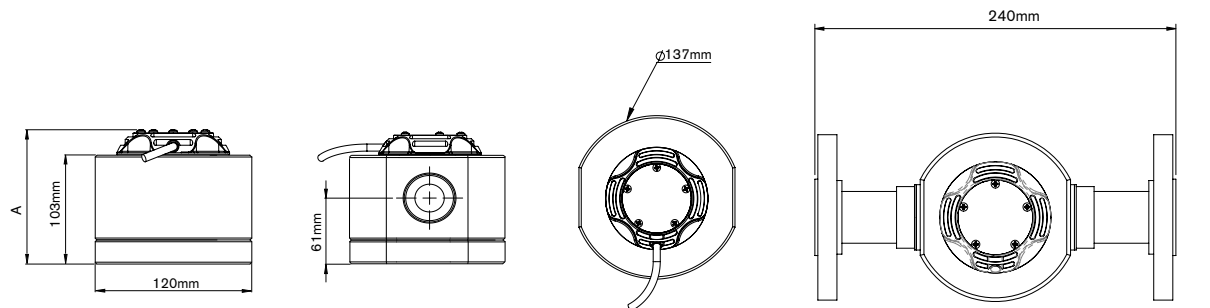
** Pressure rating subject to change as per flange rating

OUTPUTS TYPES

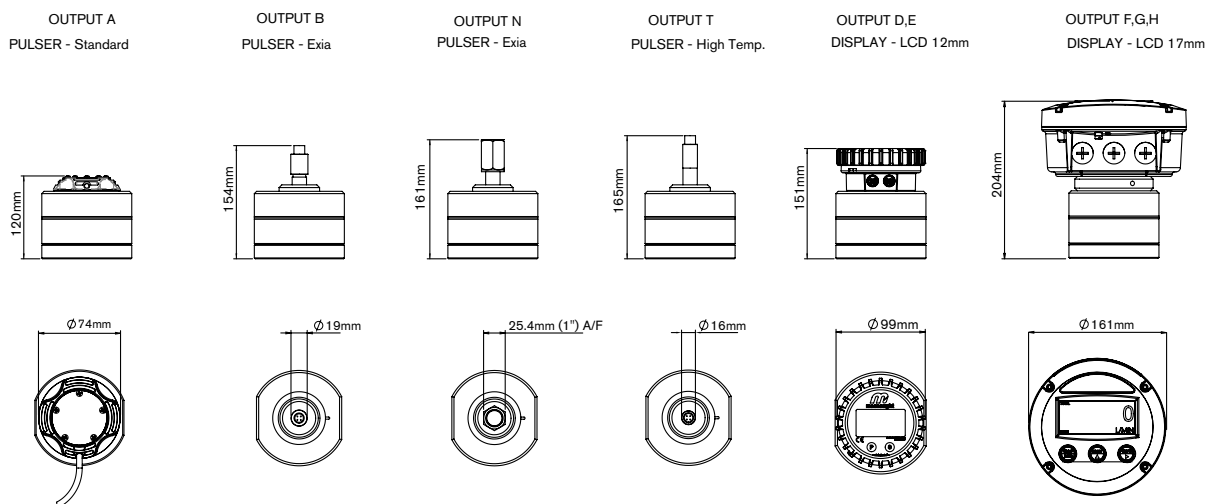
	DESCRIPTION	SWITCH TYPE	OUTPUT TYPE	MX40F	MX40S	MX40P
X	No Output	-	No Output	●	●	●
A	Standard Pulse	Reed /Hall (NPN)	Pulse (1m flying lead)	●	●	●
B	Ex approved (Ex ia)	Hall (NPN)	Pulse (2m DIN cable)	—	●	●
D	PR (LCD 12mm display)	-	Display 12mm	●	●	●
E	PRA (LCD 12mm display)	-	Display 12mm, 4-20mA output, Pulse	●	●	●
F	ER (LCD 17mm display)	-	Display 17mm	●	●	●
G	ERA (LCD 17mm display)	-	Display 17mm, 4-20mA output, Pulse	●	●	●
H	ERB (LCD 17mm display)	-	Display 17mm + Batch Control	●	●	●
N	Ex Approved (Ex ia NAMUR)	NAMUR	Pulse (2m DIN cable)	—	●	●
T	High Temp. Pulseerature	Hall (NPN)	Pulse	✗	S	S
I	Reed/Reed	Reed/Reed	Pulse (1m flying lead)	—	—	—
J	Hall/Hall	Hall/Hall	Pulse (1m flying lead)	—	—	—
K	High Resolution (omnipolar)	Hall (NPN)	Pulse (1m flying lead)	—	—	—

● Available ✗ Not Available S Only with stainless steel rotors — Consult Macnaught Technical regarding availability

DIMENSIONS



PULSER AND DISPLAY HEIGHT - A



MX50 – 2" DIGITAL FLOW METERS

SUITABLE FOR FLOW RANGE 15-500L/MIN



MX50P-1SE
Stainless steel body with LCD register

Output variations:



B - Ex approved (Ex ia)
Intrinsically Safe - NPN
N - Ex approved (Ex ia)
Intrinsically Safe - NAMUR
T - High Temp. Pulse
Max temp- 150°C



F - ER
LCD Display (17mm)
G- ERA
LCD Display (17mm)
H- ERB
LCD Display (17mm)
Batch controller



D - PR
LCD Display (12mm)
E - PRA
LCD Display (12mm)
with outputs



A - Standard Pulse
Reel/Hall Effect
I - Standard Pulse
Reel/Reed Effect
J - Standard Pulse
Hall/Hall Effect
K - High Resolution
Hall NPN

The MX50 2" Digital Flow Meters are suitable for flows between 15-500L/min. The 2" Digital Flow Meters have an accuracy of +/- 0.5% and provides exceptional levels of reliability and durability.

SPECIFICATIONS

	MX50F		MX50S		MX50P	
Materials of Construction Meter Body	Aluminium (6061)		Aluminium (6061)		Stainless Steel (316)	
	PPS		Aluminium (6061)		PPS Stainless Steel (316)	
	Fluorocarbon (FKM)		PTFE encapsulated (FEP)		PTFE encapsulated (FEP)	
Design Specifications Process Connections	Threaded 2" G 2" NPT	Flange ANSI CLASS 150 DIN PN16 JIS 10k	Threaded 2" G 2" NPT	Flange ANSI CLASS 150 DIN PN16 JIS 10k	Threaded 2" G 2" NPT	Flange ANSI CLASS 150 DIN PN16 JIS 10k
Technical Specifications Flow rate	<5cP 15-500L/min 4-130 USG/min	>5cP 15-500L/min 4-130 USG/min	<5cP 15-500L/min 4-130 USG/min	>5cP 15-500L/min 4-130 USG/min	<5cP 15-500L/min 4-130 USG/min	>5cP 15-500L/min 4-130 USG/min
	Operating Temperature Range*		-40 - 120°C -40 - 248°F		-40 - 80°C (150°C with high temp. rotors) -40 - 176°F (302°F with high temp. rotors)	
	Max. Operating Pressure**		1200 psi 82 Bar		1200 psi 82 Bar	
	Accuracy		+/- 0.5%		+/- 0.5%	
	Repeatability		+/- 0.03%		+/- 0.03%	
	Nominal K-Factor		6.7 Pulses/L		6.7 Pulses/L	

*Temperature based on standard pulse output - subject to change dependant on rotor and output type, contact Macnaught technical support for further investigations

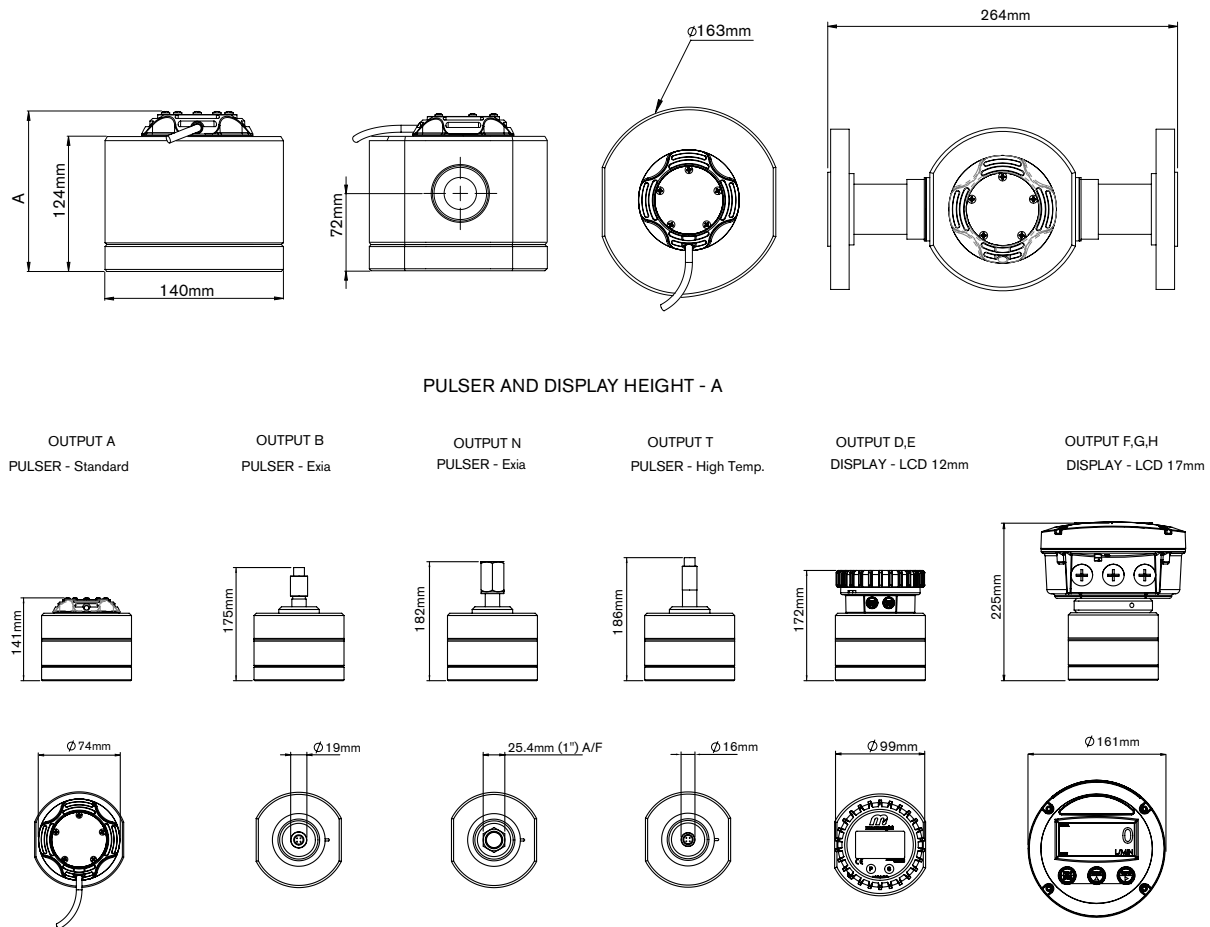
** Pressure rating subject to change as per flange rating

OUTPUTS TYPES

	DESCRIPTION	SWITCH TYPE	OUTPUT TYPE	MX50F	MX50S	MX50P
X	No Output	-	No Output	●	●	●
A	Standard Pulse	Reed /Hall (NPN)	Pulse (1m flying lead)	●	●	●
B	Ex approved (Ex ia)	Hall (NPN)	Pulse (2m DIN cable)	—	●	●
D	PR (LCD 12mm display)	-	Display 12mm	●	●	●
E	PRA (LCD 12mm display)	-	Display 12mm, 4-20mA output, Pulse	●	●	●
F	ER (LCD 17mm display)	-	Display 17mm	●	●	●
G	ERA (LCD 17mm display)	-	Display 17mm, 4-20mA output, Pulse	●	●	●
H	ERB (LCD 17mm display)	-	Display 17mm + Batch Control	●	●	●
N	Ex Approved (Ex ia NAMUR)	NAMUR	Pulse (2m DIN cable)	—	●	●
T	High Temp. Pulseerature	Hall (NPN)	Pulse	✗	S	S
I	Reed/Reed	Reed/Reed	Pulse (1m flying lead)	—	—	—
J	Hall/Hall	Hall/Hall	Pulse (1m flying lead)	—	—	—
K	High Resolution (omnipolar)	Hall (NPN)	Pulse (1m flying lead)	—	—	—

● Available ✗ Not Available S Only with stainless steel rotors — Consult Macnaught Technical regarding availability

DIMENSIONS



MX75 – 3” DIGITAL FLOW METERS

SUITABLE FOR FLOW RANGE 20-733L/MIN



MX75F-1SE
Aluminium body with LCD register

Output variations:



B - Ex approved (Ex ia)
Intrinsically Safe - NPN
N - Ex approved (Ex ia)
Intrinsically Safe - NAMUR
T - High Temp. Pulse
Max temp- 150°C



F - ER
LCD Display (17mm)
G- ERA
LCD Display (17mm)
H- ERB
LCD Display (17mm)
Batch controller



D - PR
LCD Display (12mm)
E - PRA
LCD Display (12mm)
with outputs



A - Standard Pulse
Reel/Hall Effect
I - Standard Pulse
Reel/Reed Effect
J - Standard Pulse
Hall/Hall Effect
K - High Resolution
Hall NPN

The MX75 3" Digital Flow Meters are suitable for flows between 20-733L/min. The 3" Digital Flow Meters have an accuracy of +/- 0.5% and provides exceptional levels of reliability and durability.

SPECIFICATIONS

	MX75F		MX75S	
Materials of Construction Meter Body	Cast Aluminium (6061)		Cast Aluminium (6061)	
	Rotor		Aluminium (6061)	
	Seals		PTFE encapsulated (FEP)	
Design Specifications Process Connections	Threaded 3" G 3" NPT	Flange ANSI CLASS 150 DIN PN16 JIS 10k	Threaded 3" G 3" NPT	Flange ANSI CLASS 150 DIN PN16 JIS 10k
Technical Specifications Flow rate	<5cP 60-600L/min 17-170USG/min		<5cP 60-600L/min 17-170USG/min	
	>5cP 20-733L/min 5-194USG/min		>5cP 20-733L/min 5-194USG/min	
	Operating Temperature Range*		Operating Temperature Range*	
	-40 - 120°C -40 - 248°F		-40 - 120°C -40 - 248°F	
	Max. Operating Pressure**		Max. Operating Pressure**	
	175 psi 12 bar		175 psi 12 bar	
Accuracy	+/- 0.5%		+/- 0.5%	
	Repeatability		Repeatability	
	+/- 0.03%		+/- 0.03%	
Nominal K-Factor	2.58 Pulses/L		2.58 Pulses/L	

*Temperature based on standard pulse output - subject to change dependant on rotor and output type, contact Macnaught technical support for further investigations

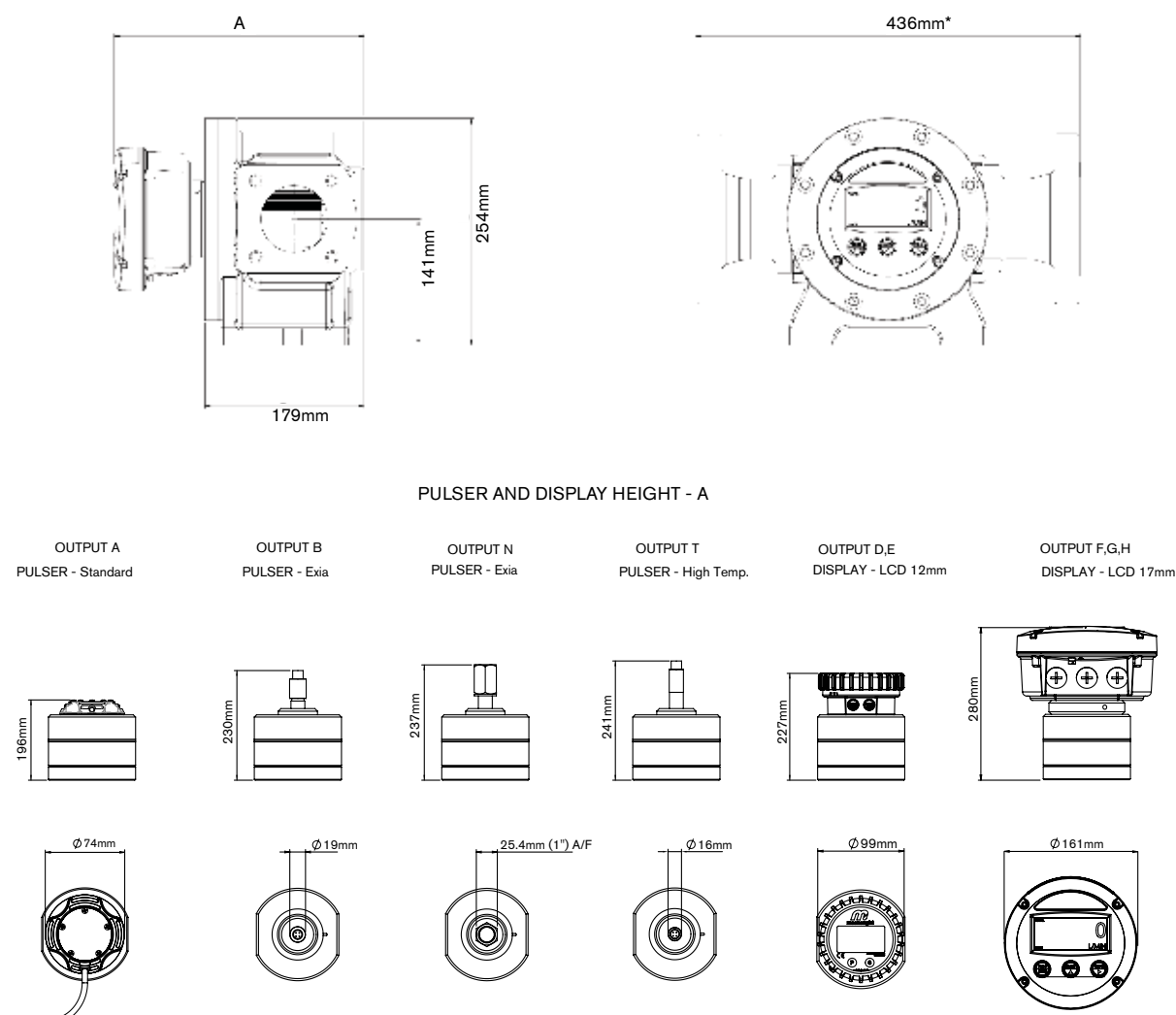
** Pressure rating subject to change as per flange rating

OUTPUTS TYPES

	DESCRIPTION	SWITCH TYPE	OUTPUT TYPE	MX75F	MX75S
X	No Output	-	No Output	●	●
A	Standard Pulse	Reed / Hall (NPN)	Pulse (1 m flying lead)	●	●
B	Ex approved (Ex ia)	Hall (NPN)	Pulse (2m DIN cable)	—	●
D	PR (LCD 12mm display)	-	Display 12mm	●	●
E	PRA (LCD 12mm display)	-	Display 12mm, 4-20mA output, Pulse	●	●
F	ER (LCD 17mm display)	-	Display 17mm	●	●
G	ERA (LCD 17mm display)	-	Display 17mm, 4-20mA output, Pulse	●	●
H	ERB (LCD 17mm display)	-	Display 17mm + Batch Control	●	●
N	Ex Approved (Ex ia NAMUR)	NAMUR	Pulse (2m DIN cable)	—	●
T	High Temp. Pulse/temperature	Hall (NPN)	Pulse	✗	●
I	Reed/Reed	Reed/Reed	Pulse (1 m flying lead)	—	—
J	Hall/Hall	Hall/Hall	Pulse (1 m flying lead)	—	—
K	High Resolution (omnipolar)	Hall (NPN)	Pulse (1 m flying lead)	—	—

● Available ✗ Not Available S Only with stainless steel rotors — Consult Macnaught Technical regarding availability

DIMENSIONS



*Length subject to change refer to appendix B (pg. 88) for full dimension variations

MX100 – 4” DIGITAL FLOW METERS

SUITABLE FOR FLOW RANGE 120-1200L/MIN



MX100F-1SE
Aluminium steel body with LCD register

Output variations:



B - Ex approved (Ex ia)
Intrinsically Safe - NPN
N - Ex approved (Ex ia)
Intrinsically Safe - NAMUR
T - High Temp. Pulse
Max temp- 150°C



F - ER
LCD Display (17mm)
G- ERA
LCD Display (17mm)
H- ERB
LCD Display (17mm)
Batch controller



D - PR
LCD Display (12mm)
E - PRA
LCD Display (12mm)
with outputs



A - Standard Pulse
Reel/Hall Effect
I - Standard Pulse
Reel/Reed Effect
J - Standard Pulse
Hall/Hall Effect
K - High Resolution
Hall NPN

The MX100 4" Digital Flow Meter are suitable for flows between 120-1200L/min. The 4" Digital Flow Meters have an accuracy of +/- 0.5% and provides exceptional levels of reliability and durability.

SPECIFICATIONS

	MX100F		MX100S	
Materials of Construction Meter Body	Cast Aluminium (6061)		Cast Aluminium (6061)	
	Rotor Aluminium (6061)		Aluminium (6061)	
	Seals Fluorocarbon (FKM)		PTFE encapsulated (FEP)	
Design Specifications Process Connections	Threaded 3" G 3" NPT	Flange ANSI CLASS 150 DIN PN16 JIS 10k	Threaded 3" G 3" NPT	Flange ANSI CLASS 150 DIN PN16 JIS 10k
	Technical Specifications Flow rate	<5cP 220-1000L/min 60-250USG/min	<5cP 220-1000L/min 60-250USG/min	>5cP 120-1200L/min 31.7-317USG/min
Operating Temperature Range*	-40 - 120°C -40 - 248°F		-40 - 120°C -40 - 248°F	
Max. Operating Pressure**	175 psi 12 bar		175 psi 12 bar	
Accuracy	+/- 0.5%		+/- 0.5%	
Repeatability	+/- 0.03%		+/- 0.03%	
Nominal K-Factor	2.3 Pulses/L		2.3 Pulses/L	

*Temperature based on standard pulse output - subject to change dependant on rotor and output type, contact Macnaught technical support for further investigations

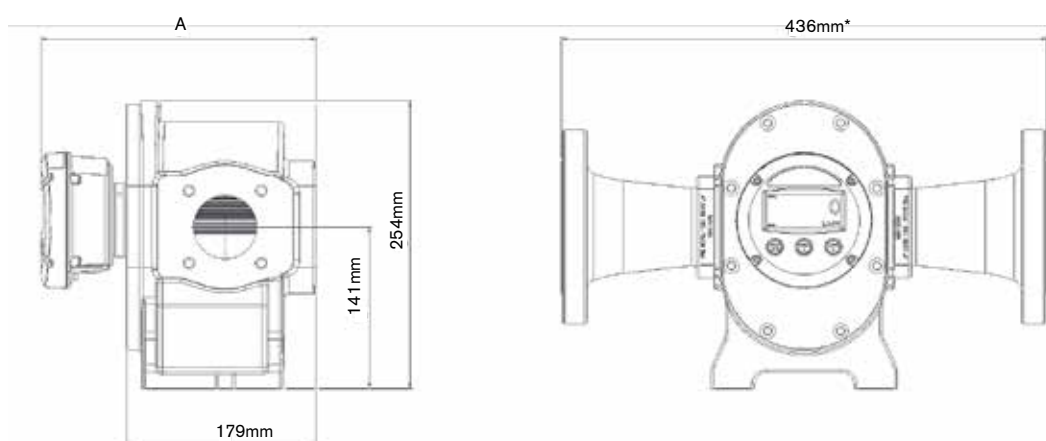
** Pressure rating subject to change as per flange rating

OUTPUTS TYPES

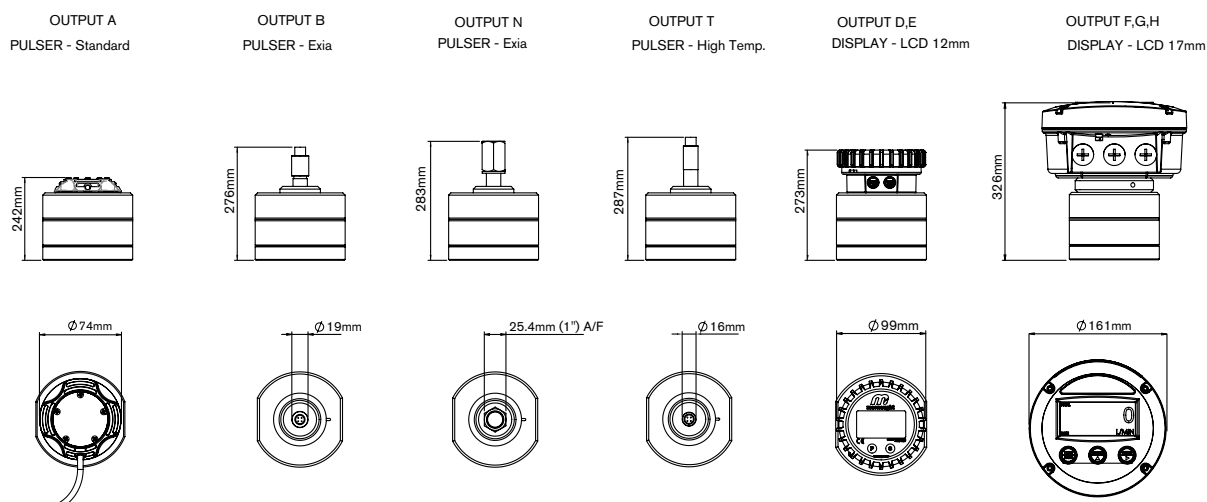
	DESCRIPTION	SWITCH TYPE	OUTPUT TYPE	MX100F	MX100S
X	No Output	-	No Output	●	●
A	Standard Pulse	Reed / Hall (NPN)	Pulse (1 m flying lead)	●	●
B	Ex approved (Ex ia)	Hall (NPN)	Pulse (2m DIN cable)	—	●
D	PR (LCD 12mm display)	-	Display 12mm	●	●
E	PRA (LCD 12mm display)	-	Display 12mm, 4-20mA output, Pulse	●	●
F	ER (LCD 17mm display)	-	Display 17mm	●	●
G	ERA (LCD 17mm display)	-	Display 17mm, 4-20mA output, Pulse	●	●
H	ERB (LCD 17mm display)	-	Display 17mm + Batch Control	●	●
N	Ex Approved (Ex ia NAMUR)	NAMUR	Pulse (2m DIN cable)	—	●
T	High Temp. Pulseerature	Hall (NPN)	Pulse	✗	●
I	Reed/Reed	Reed/Reed	Pulse (1 m flying lead)	—	—
J	Hall/Hall	Hall/Hall	Pulse (1 m flying lead)	—	—
K	High Resolution (omnipolar)	Hall (NPN)	Pulse (1 m flying lead)	—	—

● Available ✗ Not Available S Only with stainless steel rotors — Consult Macnaught Technical regarding availability

DIMENSIONS



PULSER AND DISPLAY HEIGHT - A



*Length subject to change refer to appendix B (pg. 88) for full dimension variations