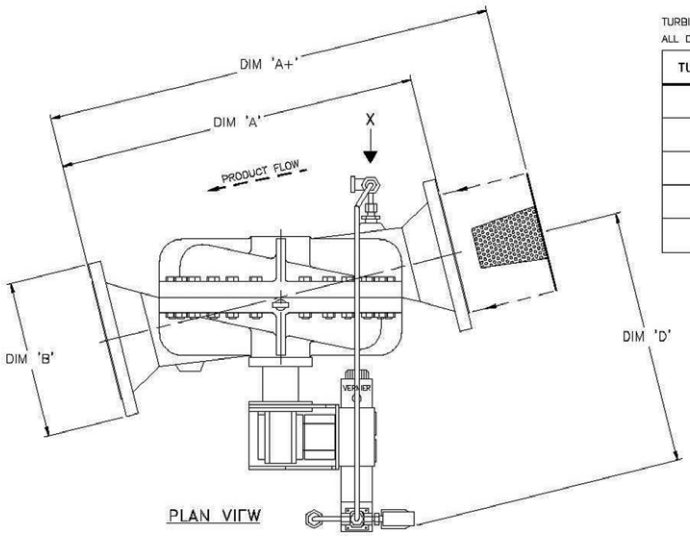
The MeQ-Pak utilises its self-powered turbine to provide energy to drive the injection system.

The flow of product through the MeQ-Pak drives the turbine, which in turn drives the positive displacement pump heads via a gearbox. The number of pump heads is determined by the ratio of additive injection required. As the main product flow varies, the proportional change in speed of the turbine, ensures that the rate of injection is adjusted accordingly. The advantages of this self-contained system are its mechanical simplicity and rugged design requiring minimum maintenance and operator interaction. This reliability makes the MeQ-Pak extremely cost-effective during operation and installation.

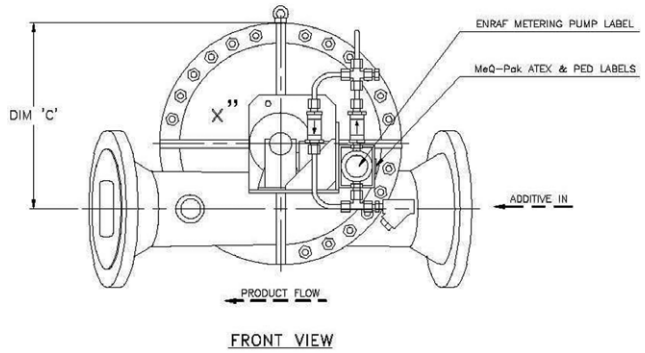
General Arrangement

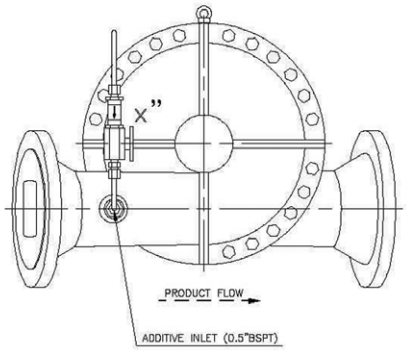


TURBINES DIM'S ARE FOR ANSI.150 R.F. FLANGES.
ALL DIMENSION'S ARE FOR REFERENCE ONLY.

TURBINE	DIM 'A'	DIM 'A+'	DIM 'B'	DIM 'C'	DIM 'D'
2"	370mm	371.5mm	ø153mm	217mm	580mm MIN
4"	503mm	504.5mm	ø230mm	290mm	580mm MIN
6"	703mm	704.5mm	ø280mm	320mm	610mm MIN
8"	803mm	804.5mm	ø343mm	415mm	610mm MIN
10"	933mm	934.5mm	ø407mm	480mm	620mm MIN

DIM 'A+':– INCLUDES WITCHES HAT STRAINER, WHEN FULLY INSERTED.
DIM 'C':– DEPENDING ON ADDITIONAL EQUIPMENT FITTED.
DIM 'D':– DEPENDING ON EQUIPMENT FITTED.





Benefits

- Proven Technology
- Simple Installation
- Proven Reliability
- Low Maintenance
- Self Contained

Features

Arrangements

The MeQ-Pak turbine driven injector is capable of being mounted both horizontally and vertically. However to facilitate non-horizontal installation, certain components must be re-orientated. The MeQ-Pak will therefore be supplied for standard horizontal mounting as per General Arrangement drawing, unless otherwise requested.

Pump Selection

The Pump Selection Table is offered as a guide for the pricing of different MeQ-Pak configurations. The actual quantity and size of pumps is dependent on the number of additives and the injection rate(s) required.

Additive Supply

The MeQ-Pak requires a constant, positive head, additive supply. Typically this would be an appropriately sized additive storage tank supplying a minimum of 0.3 metres of positive head, and rigorously purged of all air.
Call factory for range of additive supply tanks available.

Operating Range

Each metering pump is supplied with a fully adjustable stroke range, from 0-100% via a lockable vernier dial.
The final MeQ-Pak configuration will be engineered with the target injection rate at the mid range point of the stroke size, with upper and lower injection rates specified by Honeywell Enraf.

Multiple Additives

Multiple additives are capable of being injected via a single MeQ-Pak.
A maximum of 4 separate additives lines are possible, dependent upon injection rates required. Call factory for multiple additive pricing.

Calibration

To facilitate the clean and safe calibration of the MeQ-Pak turbine, in-line calibration vessels are available as an upgrade option. Approved, laboratory certified, glass calibration vessels, sized to suit are pre-installed into the additive supply line and can be utilised via a 3-way valve, to calibrate the injection rate without the need for additive exposure or operational rescheduling.

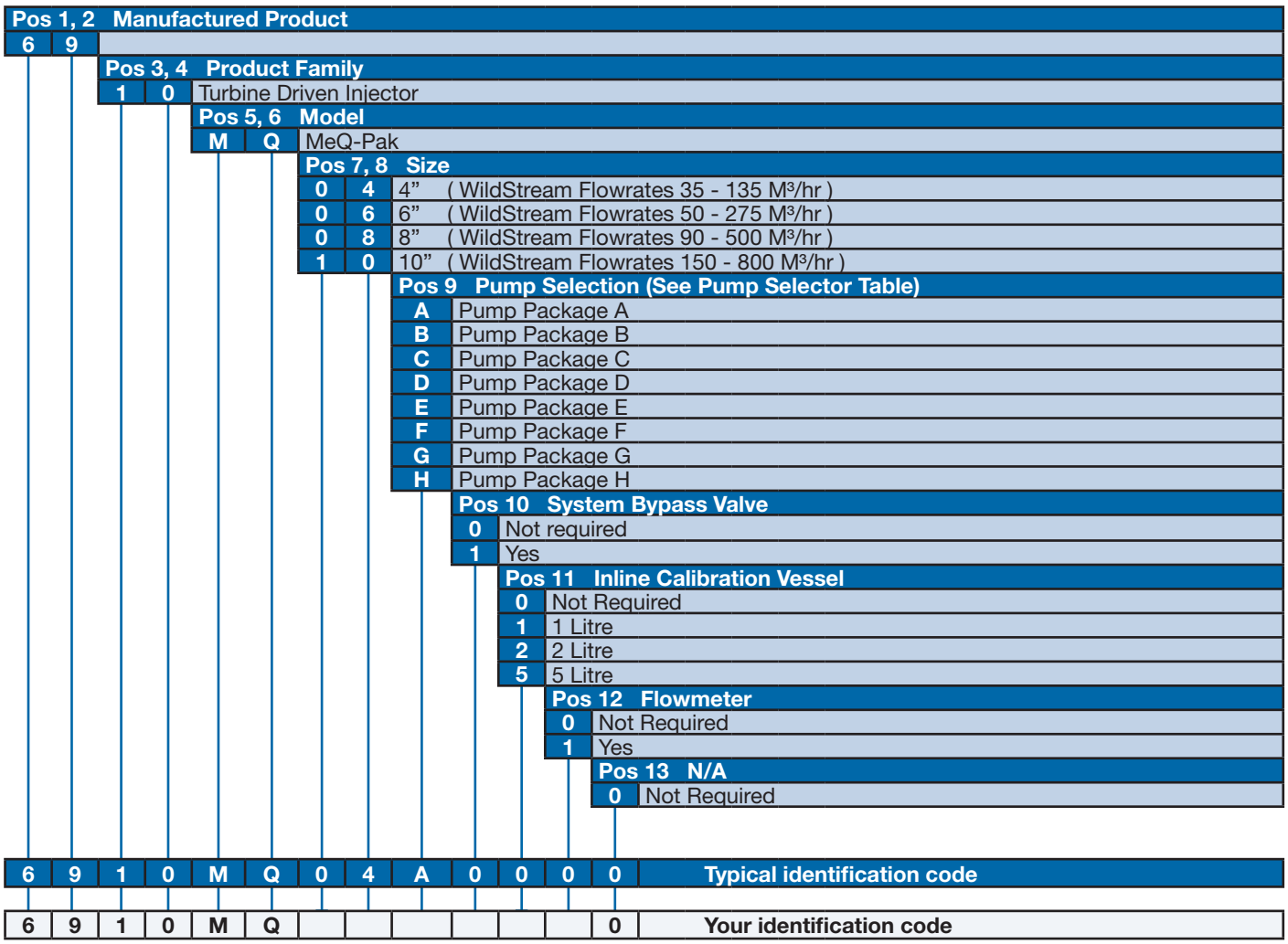
Technical Specification

Flow				
Accuracy	:	Better than ± 1.5%		
Repeatability	:	Better than ± 1.0%		
Max Flow - Wildstream	:	4”	35 - 135 M³/hr	
	:	6”	50 - 275 M³/hr	
	:	8”	90 - 500 M³/hr	
	:	10”	150 - 800 M³/hr	
Max Flow - Additive	:	4”	8.00 L/min	3500 ppm
	:	6”	10.70 L/min	2500 ppm
	:	8”	19.60 L/min	2300 ppm
	:	10”	19.60 L/min	1500 ppm
Max Working Pressure	:	15 Bar		
Max Viscosity - Wildstream	:	10 cst.		
Max Viscosity - Additive	:	2000 cst.		
Pressue Drop - Wildstream	:	Less than 1 Bar		
Additive Supply Pressure	:	300mm Positive Head - Minimum		
Environmental				
Ambient Temperature	:	-25ºC to +65ºC		
Humidity	:	5 to 95% without condensation.		
Approvals	:	ATEX, CE Marked for Zone 1		
	:	PED 8” & 10” SEP 4” & 6”		
T Rating	:	T4		
Materials				
Turbine Casing	:	Cast Steel - ASTM A216 WCB		
Turbine Axial Flow Impeller	:	304 Stainless Steel		
Turbine Mechanical Seal	:	Stainless Steel, Carbon, Viton		
Metering Pumps	:	316 Stainless Steel		
Metering Pump Seals	:	PTFE		
Mechanical Drive Casing	:	Cast Iron - Grade 250		
Paint Finish	:	Hammercote Enamel - Ref. H/126		
Mechanical				
Major Components	:	Strainer, Metering Pump(s), Turbine Unit, Mech Seal, Check Vv		
		Gearbox, Coupling & Spider, MGH Drive Mechanism, Relief V		
Turbine Connections	:	ANSI 150 lb RF Flanged		
Additive Inlet Connection(s)	:	1/2”, 3/4” or 1”NPT - Arrangement depending		
Weight				
4” Turbine Assembly	:	Approx 150 kg (Depending on No. of Pumps fitted)		
6” Turbine Assembly	:	Approx 240 kg (Depending on No. of Pumps fitted)		
8” Turbine Assembly	:	Approx 380 kg (Depending on No. of Pumps fitted)		
10” Turbine Assembly	:	Approx 560 kg (Depending on No. of Pumps fitted)		
Options				
Bypass	:	System Bypass Valve		
Calibration	:	In-line calibration vessel (1, 2 & 5 Litre)		
Reconciliation	:	Additive discharge line PD Meter		
Additive Storage	:	Additive Supply Tanks - Various models		

Pump Selection Table

Turbine Size	Pump Selector - PPM Range						
	A	**B**	**C**	**D**	**E**	**EE**	**EEE**
4”	**0-50**	**51-200**	**201-450**	**451-800**	**801-1350**	**801-2700**	**N/A**
6”	**0-20**	**21-80**	**81-150**	**151-300**	**301-550**	**301-1100**	**301-1650**
8”	**0-10**	**11-40**	**41-90**	**91-175**	**171-280**	**171-560**	**171-840**
10”	**0-7**	**7-30**	**31-60**	**61-110**	**111-190**	**111-380**	**111-570**

Identification Code



For More Information

To learn more about Honeywell Enraf's solutions, contact your Honeywell Enraf account manager or visit www.honeywellenraf.com.

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