

PURI-TEQ Damper

ULTRA LOW LEAKAGE DAMPER

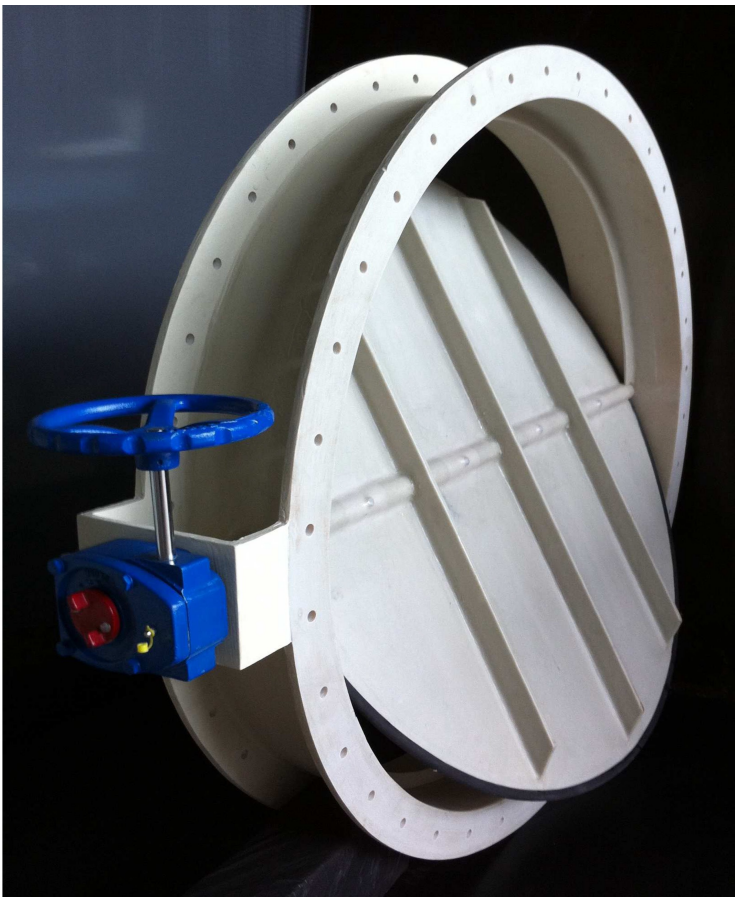
INTRODUCTION

Air extraction and ventilation systems in industries and wastewater plants have a need for an efficiently sealed and Ultra Low Leakage Dampers (PBF-ISO) and Volume Control Dampers (PBF-VC) for purpose of isolating process equipment and air balancing. Proper ductwork isolation is of highest importance to protect operators of leaking toxic gases which can be harmful to health and endanger human life.

PBF's dampers are designed and endorsed by a registered Composite Professional Engineer to ensure high product quality, operability and reliability.

Our dampers are being used in:

- Municipal Wastewater/Water Treatment Plant
- Semiconductor Plant
- Petrochemical Plant
- Pharmaceutical Plant



Typical Damper design with reinforcement stiffener, seal, blade stopper and manual actuator

FEATURES

Damper Performance:

- Design to achieve the high performance and low leakage.
- Suitable for corrosive air medium, Eg, high H₂S for odour control

Damper Strength:

- Up to pressure rating of ± 15 kpa
- Finite Element Analysis (FEA) can be provided as optional

Maintainability:

- Shaft seals can be replaced without removing damper from ductwork
- Blade and blade seal can be replaced with 1 flanged end is opened

PURI-TEQ Damper

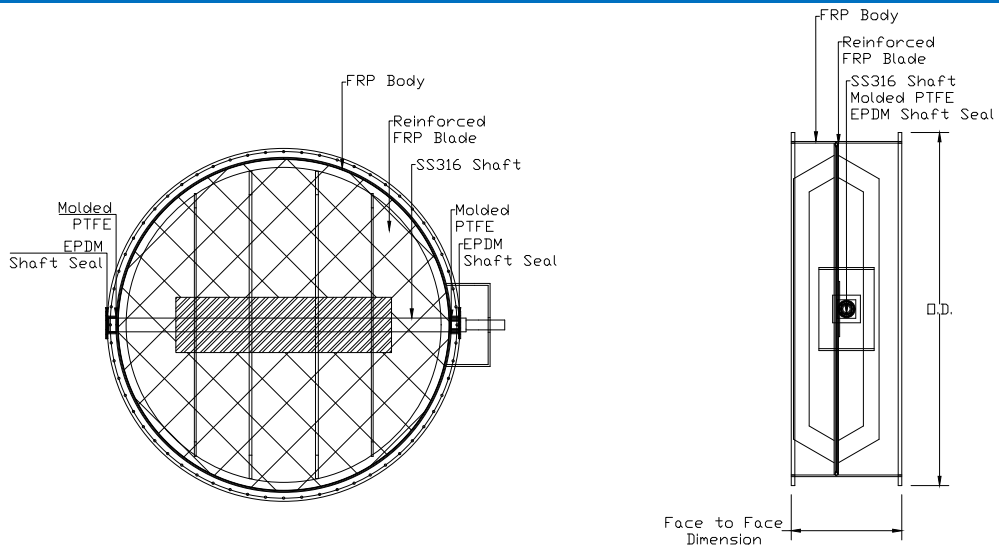
DAMPER CONSTRUCTION

Construction Standard		<ul style="list-style-type: none"> • RTP-1 • ASTM D3982-92 • ASTM D2996
Material of Construction		
Body and Housing		<ul style="list-style-type: none"> • Fibre-Reinforced Plastic (FRP)
	Corrosion Resistant Layer / Interior liner	<ul style="list-style-type: none"> • Premium corrosion-resistant Vinyl Ester Resin
	Fire Retardant	<ul style="list-style-type: none"> • Added 3 - 5% Antimony Trioxide or • ASTM E84 Class 1 Rating
	Weather resistance	<ul style="list-style-type: none"> • Ultraviolet absorbers to exterior surfacing resin to improve weather resistance.
Shaft		<ul style="list-style-type: none"> • Single rod construction SS316 with shaft seal at both ends to improve leakage performance.
Bushing		<ul style="list-style-type: none"> • PTFE
Seal		
	Shaft seal	<ul style="list-style-type: none"> • EPDM Seal
	Blade seal	<ul style="list-style-type: none"> • EPDM
Blade		<ul style="list-style-type: none"> • Fibre-Reinforced Plastic (FRP) • Optional: Reinforcement stiffeners provided for higher pressure rating

OPERATION		
Manual	Lever	<ul style="list-style-type: none"> • Stainless steel 316 locking quadrant
	Hand actuator	<ul style="list-style-type: none"> • Single or multi-reduction worm gear • Optional: Chain wheel for damper located at high level
Control	Electric Actuator	<ul style="list-style-type: none"> • Remote control by motorised actuator • Option: Smart control on-off or modulating
	Pneumatic Actuator	<ul style="list-style-type: none"> • Remote control by pressurised air

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GENERAL DATASHEET & DIMENSION (METRIC)



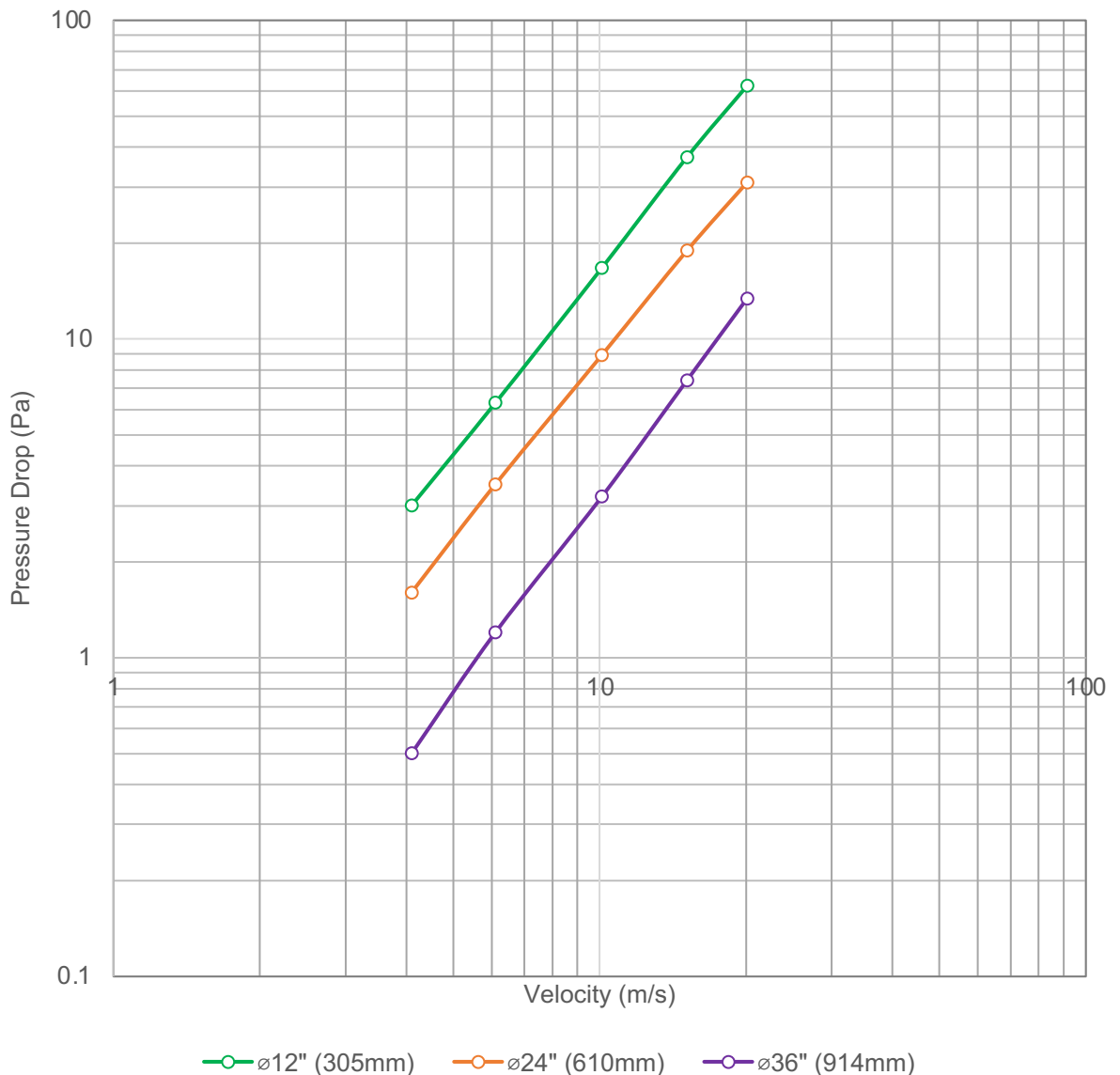
I.D. (mm)	FACE TO FACE DIMENSION (mm)	O.D. ASTM3982 / NBS-PS15-69 (mm)	O.D. PN6 FLANGE DRILLING (mm)	O.D. PN10 FLANGE DRILLING (mm)	O.D. PN16 FLANGE DRILLING (mm)
100	300	211	210	220	220
200	300	311	320	340	340
300	300	411	440	445	450
400	300	511	540	565	580
500	300	611	645	670	715
600	300	711	755	780	840
700	400	811	860	895	910
800	400	911	975	1015	1025
900	400	1011	1075	1115	1125
1000	400	1111	1175	1230	1255
1100	450	1211	1305	1355	1385
1200	450	1311	1405	1455	1485
1300	450	1411	1530	1576	1585
1400	450	1511	1630	1675	1685
1500	450	1611	1730	1815	1830
1600	550	1711	1830	1915	1930
1700	550	1811	1945	2015	2030
1800	550	1911	2045	2115	2130



Puri-Teq Pte Ltd certifies that PBF-ISO single blade damper shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program.

The AMCA Certified Ratings Seal applies to air performance and air leakage ratings only

AIR PERFORMANCE





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AIR LEAKAGE

DAMPER			PRESSURE (PA)				
ø12" (304mm)			250	1000	1500	2000	2500
Actual Leakage		l/s/m2	2.00	4.85	6.09	7.25	8.31
AMCA 511-21 Table 3 Allowable Air Leakage to Achieve Classification	Class 1A	l/s/m2	15.2	NA*	NA*	NA*	NA*
	Class 1	l/s/m2	20	40	49	57	63
DAMPER			PRESSURE (PA)				
ø36" (914mm)			250	1000	1500	2000	2500
Actual Leakage		l/s/m2	0.05	0.18	0.31	0.44	0.65
AMCA 511-21 Table 3 Allowable Air Leakage to Achieve Classification	Class 1A	l/s/m2	15.2	NA*	NA*	NA*	NA*
	Class 1	l/s/m2	20	40	49	57	63

- Tested for air leakage in accordance with ANSI/AMCA Standard 500-D, Figure 5.6A.
- Air Leakage is based on operation between 0 °C - 49 °C (32 °F - 120 °F).
- Closing torque is 30Nm, 120Nm for ø12"(305mm), ø36"(914mm) respectively. Data are based on a torque of 410.6 Nm/m2 applied to close and seat the damper during the test.
- *Not Applicable according to AMCA 511-21 Table 3 Allowable Air Leakage to Achieve Classification.

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