PURI-TEQ Damper

ULTRA LOW LEAKAGE DAMPER

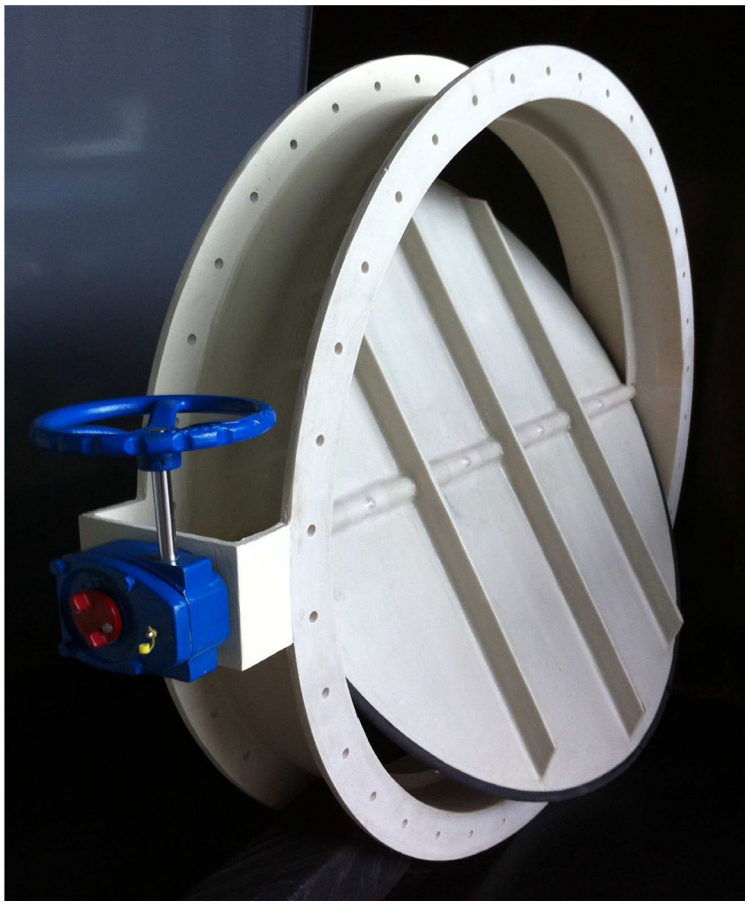
INTRODUCTION

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 ±15kpa
- 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 CONSTRUCTON

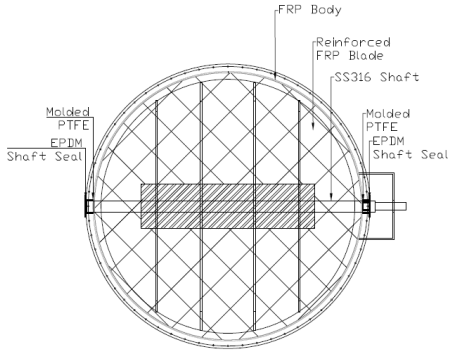
Construction Standard	• RTP-1 • ASTM D3982-92 • ASTM D2996

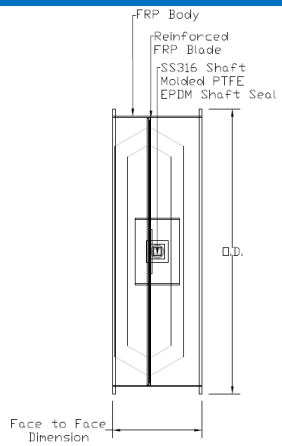
Material of Construction		
Body and Housing		• Fibre-Reinforced Plastic (FRP)
	Corrosion Resistant Layer / Interior liner	• Premium corrosion-resistant Vinyl Ester Resin
	Fire Retardant (Optional)	• Added 3 - 5% Antimony Trioxide or • ASTM E84 Class 1 Rating
	Weather resistance	• Ultraviolet absorbers to exterior surfacing resin to improve weather resistance.
Shaft		• Single rod construction SS316L with shaft seal at both ends to improve leakage performance.
Bushing		• PTFE
Seal		
	Shaft seal	• EPDM Seal
	Blade seal	• EPDM
Blade		• Fibre-Reinforced Plastic (FRP) • Optional: Reinforcement stiffeners provided for higher pressure rating

OPERATION		
Manual	Lever	• Stainless steel 316 locking quadrant
	Hand actuator	• Single or multi-reduction worm gear • Optional: Chain wheel for damper located at high level
Control	Electric Actuator	• Remote control by motorised actuator • Option: Smart control on-off or modulating
	Pneumatic Actuator	• Remote control by pressurised air

PURI-TEQ Damper

GENERAL DATASHEET & DIMENSION (METRIC)





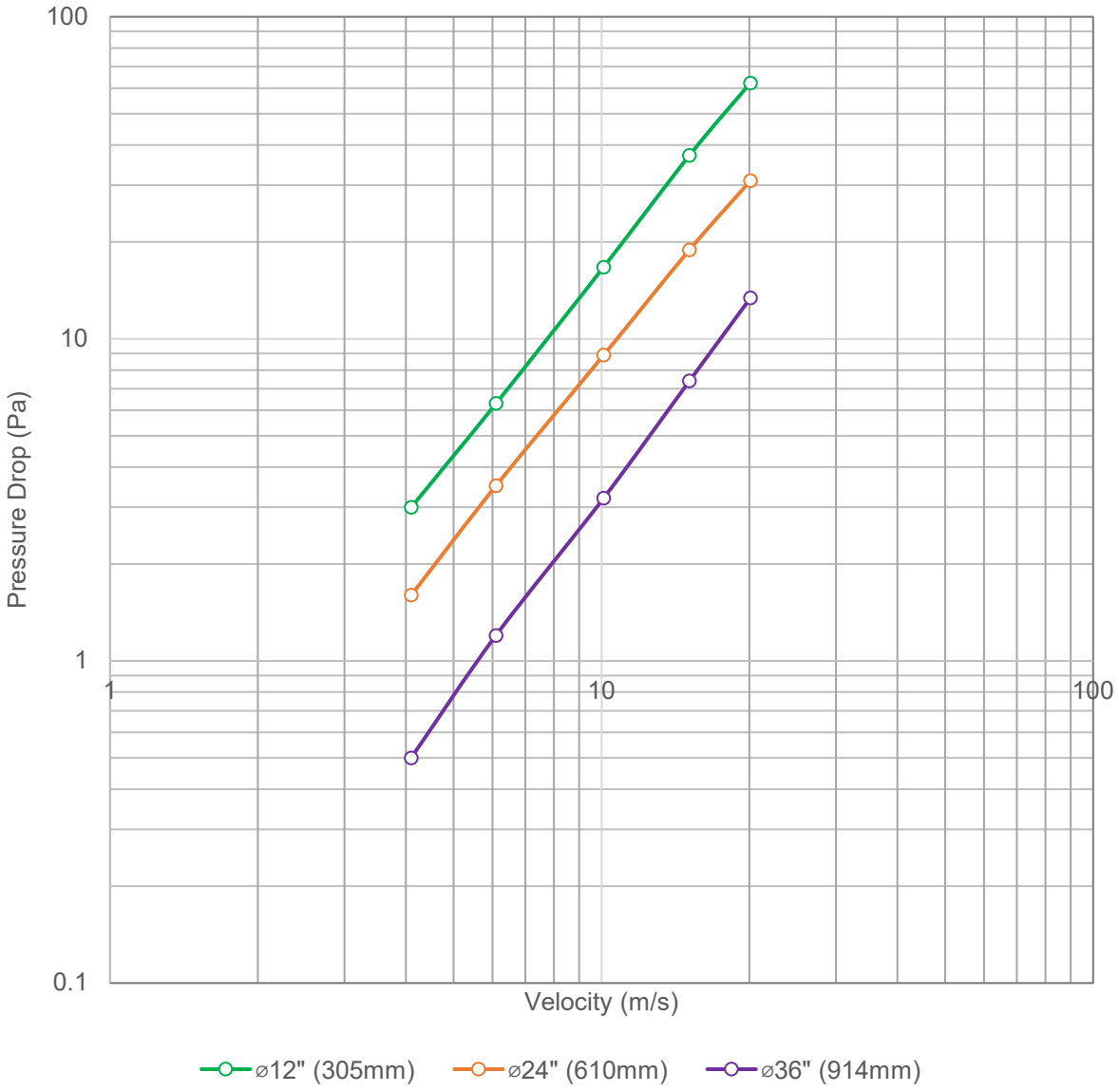
I.D. (mm)	FACE TO FACE DIMENSION (mm)	O.D. ASTM3982 / NBS-PS15-69 (mm)	O.D. PN6 FLANGE DRILLING (mm)	O.D. PN10 FLANGE DRILLING (mm)	O.D. PN16 FLANGE DRILLING (mm)
100	300	213	210	220	220
200	300	314	320	340	340
300	300	416	440	445	450
400	350	518	540	565	580
500	350	619	645	670	715
600	350	721	755	780	840
700	400	813	860	895	910
800	400	911	975	1015	1025
900	400	1010	1075	1115	1125
1000	400	1112	1175	1230	1255
1100	450	1222	1305	1355	1385
1200	450	1354	1405	1455	1485
1300	450	1462	1530	1576	1585
1400	450	1561	1630	1675	1685
1500	450	1663	1730	1815	1830
1600	550	1762	1830	1915	1930
1650	550	1813	1884	1965	1980

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

Tested for Air performance in accordance with ANSI/AMCA 500-D, Figure 5.3.



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 LEAKAGE

DAMPER		PRESSURE (PA)				
ø4" (100mm)		250	1000	1500	2000	2500
Actual Leakage	l/s/m2	1.75	6.02	7.70	9.14	9.87
DAMPER		PRESSURE (PA)				
ø65" (1650mm)		250	1000	1500	2000	2500
Actual Leakage	l/s/m2	0.02	0.05	0.06	0.09	0.32

	LEAKAGE CLASS				
DAMPER SIZE	250	1000	1500	2000	2500
ø4" (100mm)	1A	1	1	1	1
ø65" (1650mm)	1A	1	1	1	1

- 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 1.5Nm, 30Nm, 120Nm, 207Nm for ø4”(100mm), ø12”(305mm), ø36”(914mm) ø65”(1650mm) respectively. Data are based on a torque of 410.6 Nm/m2 applied to close and seat the damper during the test.

SI	Maximum Allowable Leakage, L/s/m^2		
Class	At 0.25 kPa[1]	At 1.0 kPa[1]	At *x* kPa[2]
1A	15.2	N/A	N/A
1	20	41	$2\sqrt{x} \times 20$
2	51	102	$2\sqrt{x} \times 51$
3	203	406	$2\sqrt{x} \times 203$

REF: AMCA 511 TABLE 3

PURI-TEQ PTE LTD
47 Kallang Pudding Road
#07-03 Singapore 349318
T: +65 6493 7393 | E: info@puri-teq.com