

Data Sheets

Waterloo Morada Fire Station

Plymovent - Vehicle Exhaust Removal System

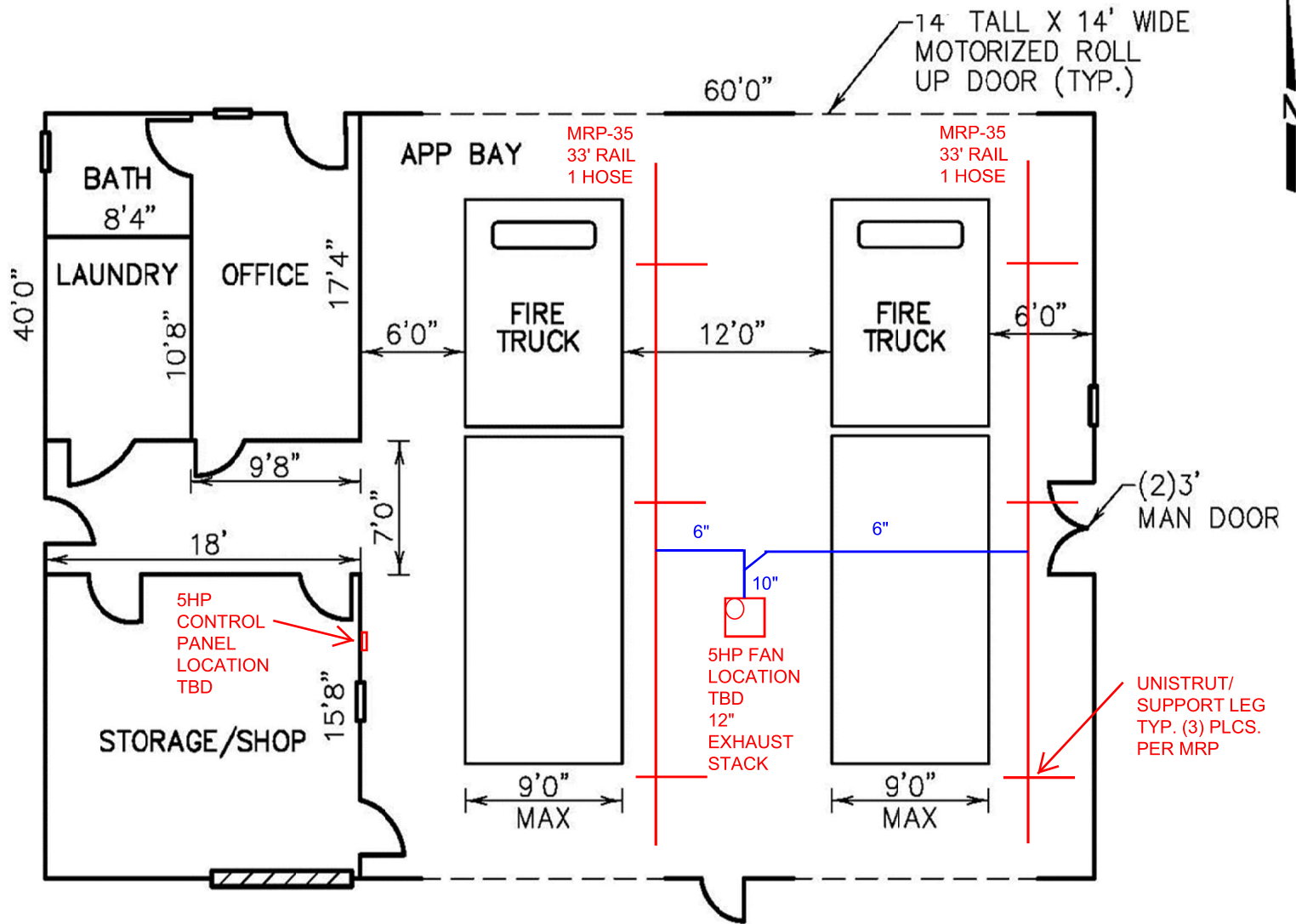
Plymovent System - Layout
Plymovent – MRP Rail Information – MRP-35-1
Plymovent Fan – Motor/Blower Information
Plymovent – Electrical Information
Submittal Note Sheet

7/29/21

PLAN VIEW

SHOP DRAWING

Station 2: Proposed Interior Layout



LEGEND:

-  WINDOW
-  8' WIDE ROLL UP DOOR
-  APPARATUS BAY DOOR

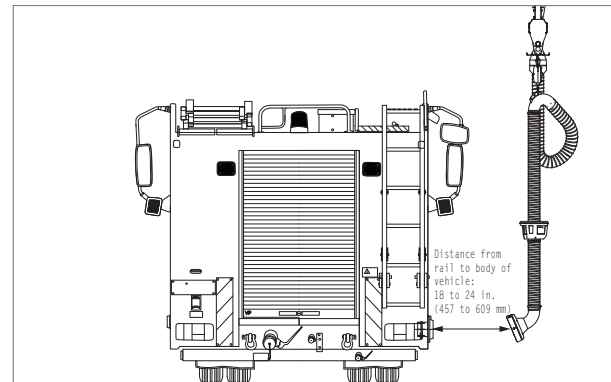
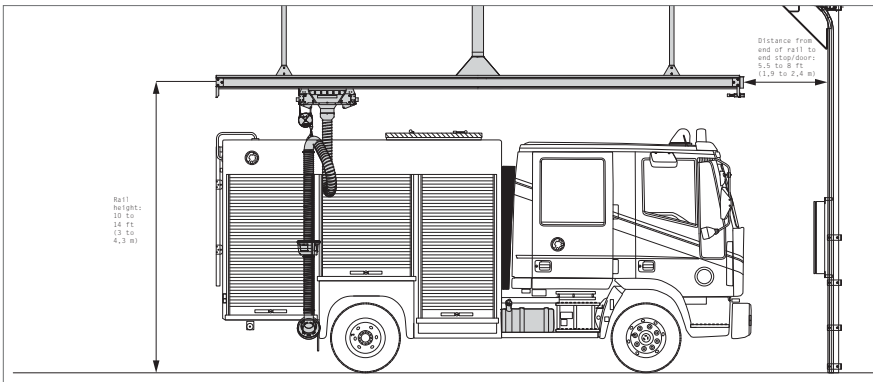
MRP

RAIL

Two (2) MRP-35-1_33' Rail_1 Hose

Product: Mini Rail Profile (MRP)

Summary: MRP removes diesel fumes at the source from start up to exit of vehicles from fire or emergency facilities, and supports bays up to 65 ft. MRP features a square aluminum rail with an open section that is sealed by rubber lips. A trolley travels inside the rail profile, and the trolley duct opens the rubber seal lips within the profile.



Drawings are not to scale.

Fig. 1.1

Fig. 1.2

System Specifications			
Type	Length: ft (m)	# of Suspensions	Weight: lbs (kg)
MRP-20	19 (5,8)	2	199.5 (90,5)
MRP-30	28.5 (8,7)	3	299.2 (135,7)
MRP-35	33.3 (10,1)	3	347.5 (157,6)
MRP-40	38 (11,58)	4	399 (181)
MRP-45	42.8 (13)	4	447 (202,8)
MRP-50	47.5 (14,5)	5	498.7 (226,2)
MRP-55	52.8 (16)	5	550.3 (249,6)
MRP-60	57 (17,4)	6	598.3 (271,4)
MRP-65	61.8 (18,8)	6	646.6 (293,3)
MRP-75	71.8 (21.88)	8	740.4 (335.8)

Support Details			
Length: ft (m)	Brace Length	X1	X2
0 - 1.5 (0 - 0.5)	N/A	0	0
1.5 - 3 (0,5 m - 0,9)	20 in. (0.5 m)	14 in. (0.36 m)	14 in. (0.36 m)
3 - 6 (0,9 - 1,8)	30 in. (0.76 m)	21 in. (0.53 m)	21 in. (0.53 m)
6 - 10 (1,8 - 3)	72 in. (1,8 m)	51 in. (1,3 m)	51 in. (1,3 m)

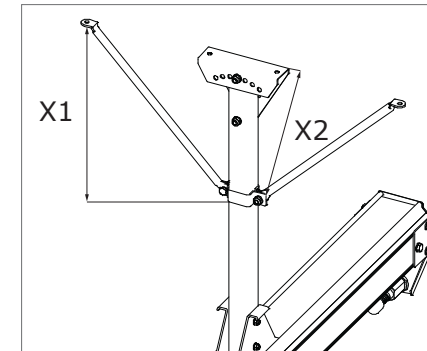


Fig. 1.3

Notes:

1. System support method: see fig. 1.3 and support details table.
2. System location: see system specifications table.
3. Based on 1 crab and hose assembly; each additional crab/hose adds 40 lbs (18 kg).

Job Name:	DWG BY: TV	Revision: 0	Rev. Date: 06/11/20
Engineer:	Plymovent Corp. 5 Corporate Drive Cranbury, NJ 08512 800-644-0911		MRP
Customer:			

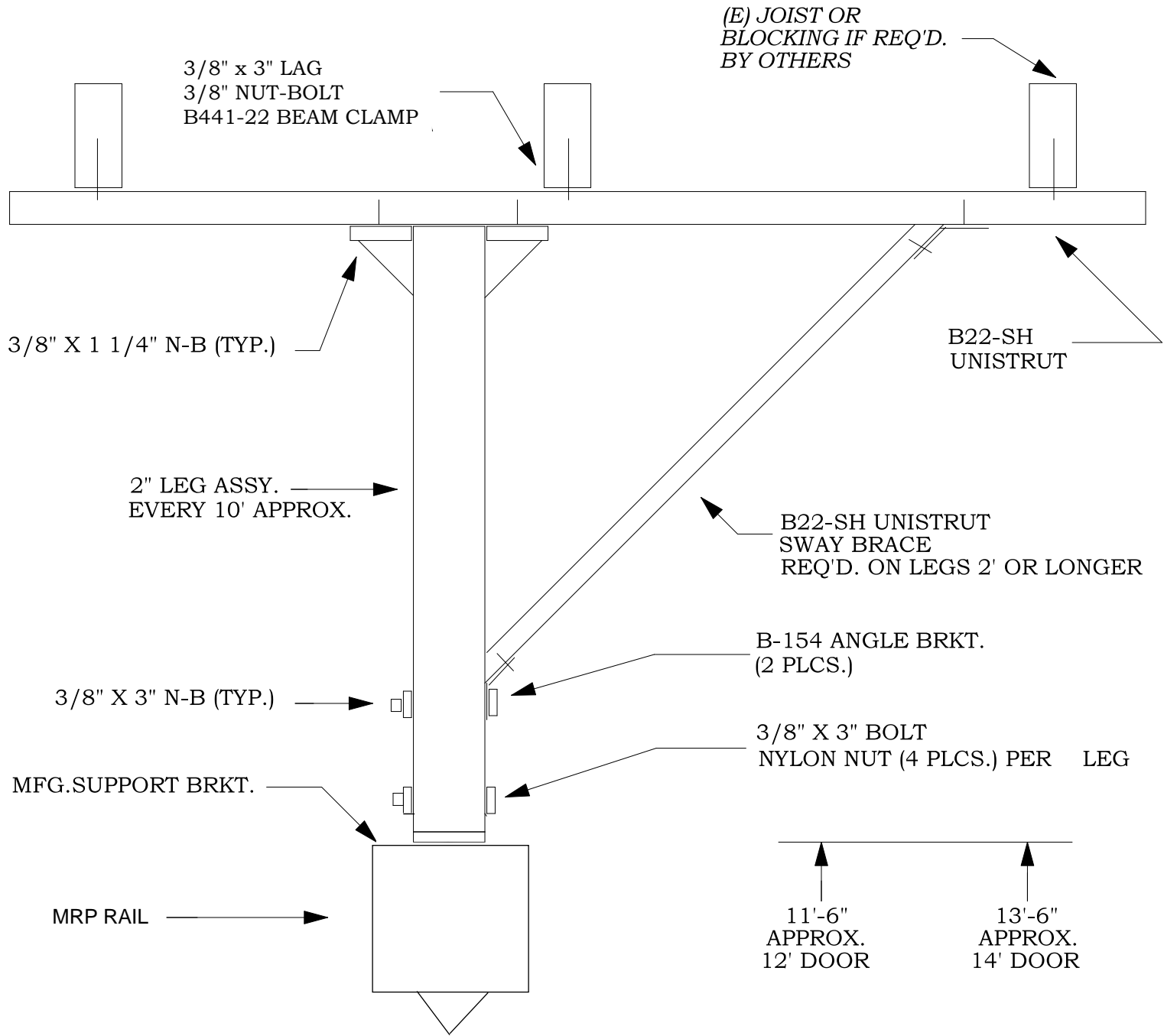
Product: Mini Rail Profile (MRP) - Page 2

Maximum reach based on specific track height (in ft)

Type		Magnetic Grabber					
		Height: 12 ft 6 ft from door		Height: 13 ft 7 ft from door		Height: 14 ft 8 ft from door	
		Back in ft (m)	Drive through ft (m)	Back in ft (m)	Drive through ft (m)	Back in ft (m)	Drive through ft (m)
MRP-20	19 (5,8)	24 (7,3)	28 (8,5)	25 (7,6)	30 (9,1)	26 (7,9)	32 (9,8)
MRP-30	28.5 (8,7)	33.5 (10,2)	37.5 (11,4)	34.5 (10,5)	39.5 (12)	35.5 (10,8)	41.5 (12,6)
MRP-35	33.3 (10,1)	38.3 (11,7)	42.5 (13)	39.3 (12)	44.5 (13,6)	40.3 (12,3)	46.5 (14,2)
MRP-40	38 (11,58)	43 (13,1)	47 (14,3)	44 (13,4)	49 (14,9)	45 (13,7)	51 (15,5)
MRP-45	42.8 (13)	47.8 (14,6)	51.8 (15,8)	48.8 (14,9)	53.8 (16,4)	49.8 (15,2)	55.8 (17)
MRP-50	47.5 (14,5)	52.5 (16)	56.5 (17,2)	53.5 (16,3)	58.5 (17,8)	54.5 (16,6)	60.5 (18,4)
MRP-55	51.8 (15,8)	57.3 (17,5)	61.3 (18,7)	58.3 (17,7)	63.3 (19,3)	59.3 (18)	65.3 (19,9)
MRP-60	57 (17,4)	62 (18,9)	66 (20,1)	63 (19,2)	68 (20,7)	64 (19,5)	70 (21,3)
MRP-65	61.8 (19)	66.8 (20,4)	70.8 (21,6)	67.8 (20,7)	72.8 (22,2)	68.8 (21)	74.8 (22,8)
MRP-75	71.8 (22)	78.8 (24,1)	82.6 (25,1)	79.8 (24,3)	84.6 (25,7)	80.8 (24,6)	86.6 (26,3)

Disclaimer: The intended use of this drawing is to provide general equipment dimensions. The information provided is confidential and proprietary to Plymovent Corp. and is not to be recreated, modified and/or otherwise distributed without written consent of Plymovent Corp. There are no expressed or implied warranties concerning the accuracy, completeness, reliability, or usability of this information. Use of this or any Plymovent Corp. drawing, for purposes other than its intended use, is unlawful and actions may be taken against the violating party(ies).

Job Name:	DWG BY: TV	Revision: 0	Rev. Date: 06/11/20
Engineer:	Plymovent Corp. 5 Corporate Drive Cranbury, NJ 08512 800-644-0911		MRP
Customer:			



STD. SUPPORT LEG
MRP RAIL

MAGNETIC GRABBER®

VEHICLE EXHAUST REMOVAL SYSTEM

The Magnetic Grabber® is a patented vehicle exhaust removal device. The Magnetic Grabber® nozzle incorporates a self-aligning conical design with integrated magnets that provide a quick and easy "Click and Seal" connection and controlled disconnect from the vehicles tailpipe. The nozzle is used in conjunction with the conical tailpipe adapter (TPA) and is primarily used in Fire and Emergency Services stations where the vehicles may be operated indoors for equipment checks and for exiting the building on emergency calls.



APPLICATIONS

The Magnetic Grabber® is intended to be used for the following applications:



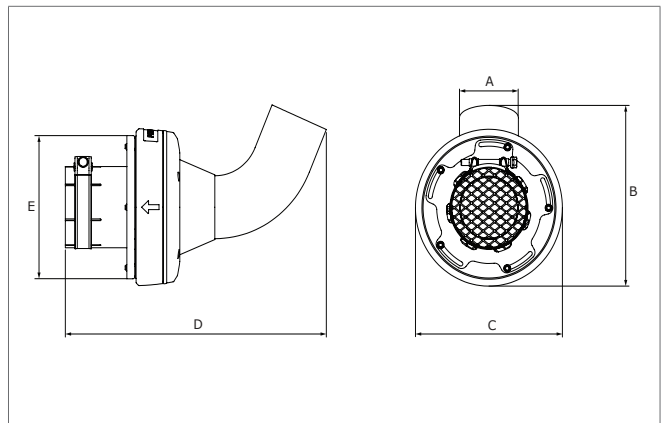
- To eliminate hazardous vehicle exhaust emissions with our vehicle exhaust capture and removal systems for the following segments: fire and emergency service stations as well as military facilities.

SPECIFICATIONS

■ Physical dimensions and properties	
Material	<ul style="list-style-type: none"> • galvanised steel • stainless steel • EPDM rubber
Colour	<ul style="list-style-type: none"> • silver • black
■ Ambient conditions	
Max. temperature	250°C (480°F)*
Max. relative humidity	all ambient conditions allowed
Storage conditions	all ambient conditions allowed
■ Where used	
All Plymovent railsystems such as SBT and STR	
■ Scope of supply	
Magnetic Grabber® (matching TPA to be ordered separately)	
■ Order information	
Article no.	see remaining specifications
Number/package	1
■ Shipping data	
Gross weight	see remaining specifications
Packing dimensions	see dimensions
Packaging	bubble wrap

* When the maximum temperature is exceeded there is a small risk that the electro-zinc plated layer will start to peel.

DIMENSIONS



Dimension	75 mm (3 in.) version	100 mm (4 in.) version	125 mm (5 in.) version
A	100 mm (4 in.)	125 mm (5 in.)	
B	75 mm (3 in.) version	260 mm (10.2 in.)	271 mm (10.6 in.)
	100 mm (4 in.) version	293 mm (11.5 in.)	
C	75 mm (3 in.) version	190 mm (7.5 in.)	212 mm (8.3 in.)
	100 mm (4 in.) version	253 mm (9.9 in.)	
D	75 mm (3 in.) version	381 mm (15 in.)	426 mm (16.8 in.)
	90 mm (3.5 in.) version	440 mm (17.3 in.)	
	100 mm (4 in.) version	470 mm (18.5 in.)	
	125 mm (5 in.) version	470 mm (18.5 in.)	
E	75 mm (3 in.) version	164 mm (6.5 in.)	184 mm (7.2 in.)
	90 mm (3.5 in.) version	228 mm (9 in.)	
	100 mm (4 in.) version	228 mm (9 in.)	
	125 mm (5 in.) version	228 mm (9 in.)	
	150 mm (6 in.) version	228 mm (9 in.)	
	175 mm (7 in.) version	228 mm (9 in.)	

TEV-585

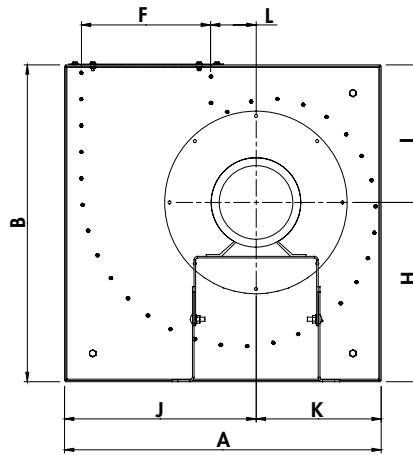
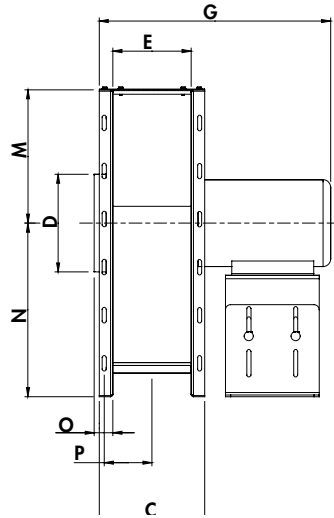
MOTOR

BLOWER

One (1) Fan
5HP, 208-230/460V, 3 Phase

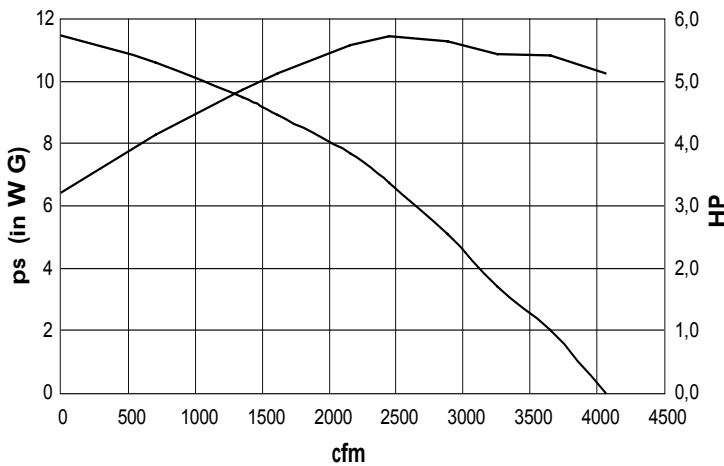
Plymovent reserves the right to make design and technical changes.

	mm	inches
A	785	30 7/8
B	785	30 7/8
C	270	10 5/8
D	250	9 13/16
E	200	7 7/8
F	322	12 11/16
G	542	21 11/32
H	444	17 15/32
I	341	13 7/16



	mm	inches
J	475	18 11/16
K	310	12 7/32
L	112	4 13/32
M	341	13 7/16
N	444	17 15/32
O	25	1
P	119	4 11/16

TECHNICAL DATA



Fan specifications

- Construction: AMCA Type - B
- Drive type: Direct drive
- Impeller type: Backward incline
- Impeller material: Aluminum
- Impeller diameter: 16.3 inch
- Impeller width: 2.32 inch
- Hub size: 1 1/8 inch
- Discharge style: Rotational 90°
- Shaft seal: Rubber
- Housing material: Galvanized steel
- Housing finish: Epoxy powder coat
- Total fan weight: 175 lbs

Motor specifications

- Frame size: NEMA 184TC
- Motor type: TEFC (IP 55)
- Rated output: 5.0 HP
- Thermal protection: No
- CSA: Yes
- CE-listed: Yes
- Continuous duty: 104°F/40°C
- 3 phase motor**
- Voltage: 208-230/460/575 V
- Full load current: 13.0-11.8/5.90A
- Motor RPM: 3480
- Service factor: 1.25

Performance shown is for installation type D: Ducted inlet, Ducted outlet. Performance ratings do not include the effects of appurtenance in the airstream. Performance measured at a speed of 3500 RPM and the efficiency of the motor.

Electrical power is available for all international electrical power sources.

SOUND POWER DATA

Speed	Pressure in wg	Octave Band (Hz)								LwA
		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
3500	0	105	104	99	96	92	92	88	83	99
3500	1	106	105	101	97	92	91	87	81	100
3500	2	107	106	102	98	93	90	86	80	100
3500	3	107	106	102	97	92	89	85	79	100
3500	4	107	106	101	97	91	89	84	78	99
3500	5	106	106	101	96	91	88	83	78	99

Performance shown is for installation type D: Ducted inlet, Ducted outlet. The sound power level ratings shown are in decibels, referred to 10-12 watts calculated per AMCA standard 301. Values are shown for inlet LwA sound power levels for installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

PLYMOVENT®

Plymovent Corp.
115 Melrich Road,
Cranbury, NJ 08512, USA
Tel: +1 (609) 395 3500
Fax: +1 (609) 655 0919
info@plymovent.com
www.plymovent.com

Plymovent Canada Inc.
24-1200 Aerowood Dr.
Mississauga, ON L4W 2S7, Canada
Tel: +1 (905) 564-4748
Fax: +1 (905) 564-4609
info@plymovent.ca
www.plymovent.com

Plymovent representative



ELECTRICAL INFORMATION

OS-3 Control Box

5HP, 3 Phase

Wiring Details

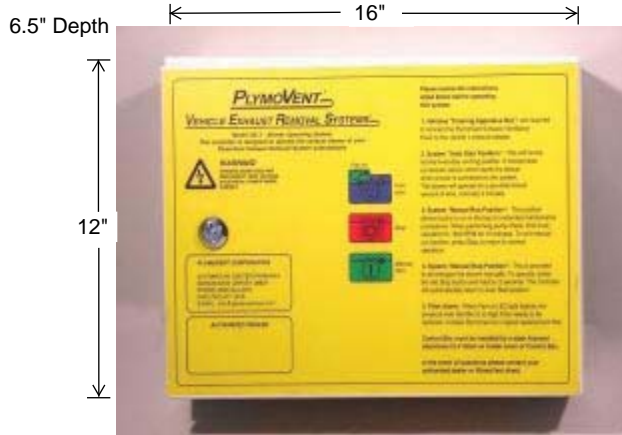


TECHNICAL DESCRIPTION

BSAB no: T0.7
Ser.no: OS-3
Date: NOV-00
Replace:

BLOWER OPERATING SYSTEM: OS-3

© Copyright 1997. All rights reserved. All information within this printed matter may not be reproduced, transmitted, copied, amended or translated into another language in any form or means without written permission from PlymoVent AB. PlymoVent AB reserves the right to make design changes.



Area of use:

OS-3 is an energy saving control unit, which together with pressure sensor, temp sensor makes a fully automatic system for the control of PlymoVent's vehicle exhaust fans.

Delivery:

The control unit, OS-3, is delivered complete with functions for manual and automatic start/stop of the exhaust fan.

NOTE! The control unit, OS-3, is delivered without cable for field wiring. Cables for field wiring must apply to UL and NEC.

General information:

OS3 controller is designed to be used for control of exhaust fans in vehicle exhaust system, with or without particle filtration system. The controller can be set for both manual and automatic control of the fan. Depending of system, different sensors for start/stop function, can be used. Mainly two types of sensors will be used; pressure sensor to detect pressure difference in systems and temperature sensors to detect temperature level in the system. The OS3 control box also includes an alarm device, which can be used for status control of the airflow in the exhaust system. A built in "after running time" function will secure that toxic gases in the duct system will be exhausted out of the ducting before the fan stops. The after running time can easily be adjusted between 7 sec. to 5 minutes.

Method of operation:

When the control unit is set into "automatic" position, the exhaust fan is started by a signal from an externally mounted pressure, or/and temperature sensor. Normally the system is activated by the pressure sensor and kept running by the temperature sensor.

Pressure sensor:

The pressure sensor reacts on increasing pressure (positive pressure) which occur in the system when a vehicle is starting up. The pressure sensor is adjustable to fit all engine sizes.

Automatic mode:

When the engine is turned on, the pressure sensor reacts and forward a signal to the control Unit. The control unit is then starting the exhaust fan.
When the engine turns off the pressure in the system decreases and the fan stops after The pre-adjusted after run time is out.

Manual mode:

When the control unit is set in manual position the exhaust fan is running continuously.

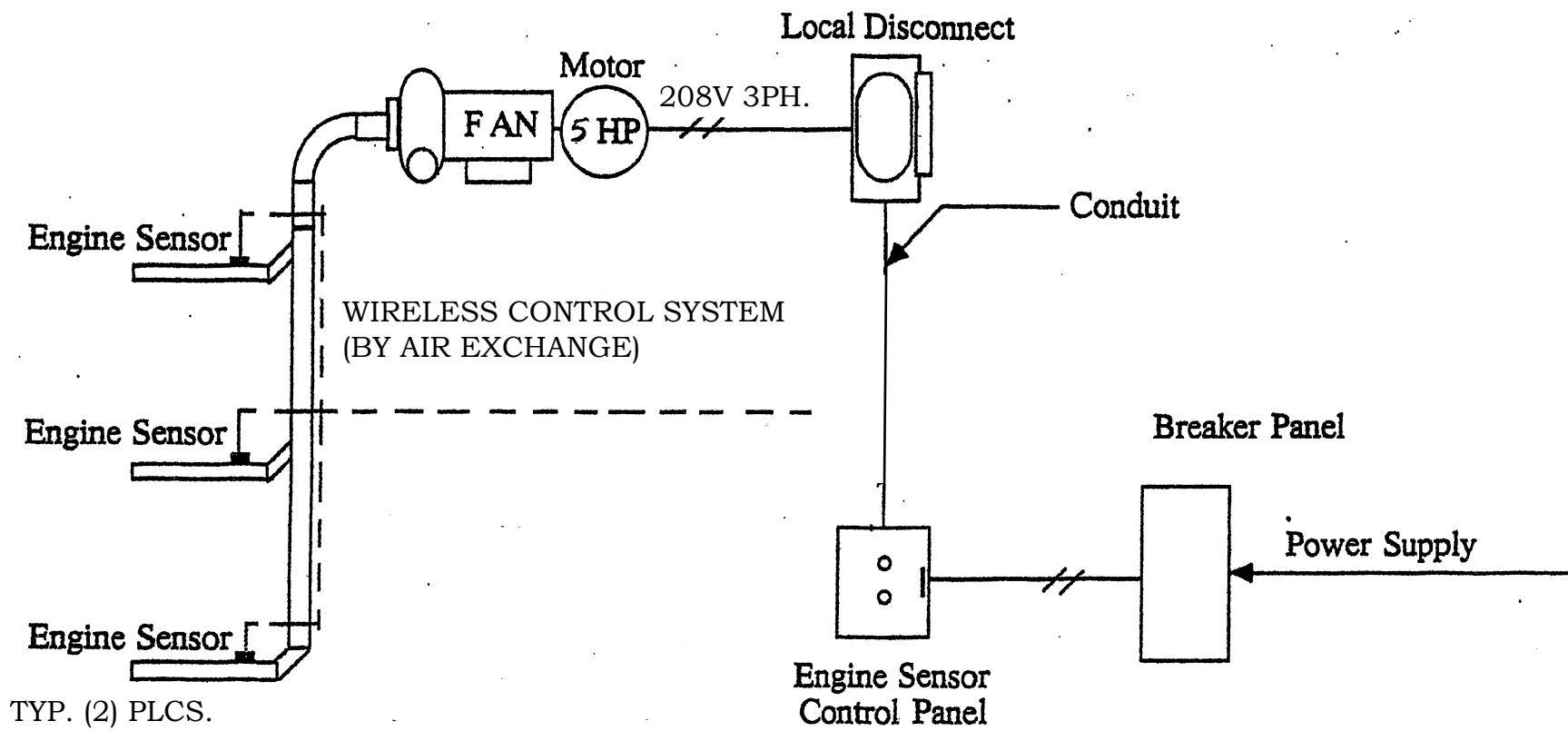
Stop mode:

When pressing the stop button, the fan will stop immediately and after a short period of time 2-3 sec. the controller will move into automatic mode. This built in function will prevent the risk of having exhaust gas leakage in the system due to operator error.

PlymoVent Blower Wire Sizing Chart

PlymoVent Model No.	HP Rating	Voltage	Full Load Amps	Circuit Breaker Size	Number of Conductors	Wire Size THHN AWG Minimum	Conduit Size EMT	Non-fusible Disconnect Sa. D Part No.
Single Phase								
67001	1hp	115V	12A	20A	2	#10	3/4"	DU221RB
		208/230V	6A	15A	2	#14	3/4"	DU221RB
TEV-359-60	2hp	208/230V	15/12A	20A	2	#14	3/4"	DU221RB
TEV-3110-60	3hp	208/230V	16/12.9A	20A	2	#10	3/4"	DU221RB
TEV-559-60	5hp	208/230V	24/20.5A	30A	2	#10	3/4"	DU221RB
TEV-585-60	7.5hp	208/230V	33.3A	50A	2	#8	3/4"	DU222RB
67009	10hp	208/230V	42A	60A	2	#6	3/4"	DU222RB
Three Phase								
TEV-359-60	2hp	208V	6.2A	15A	3	#14	3/4"	DU321RB
		230V	5.6A	15A	3	#14	3/4"	DU321RB
		460V	2.8A	15A	3	#14	3/4"	HU321RB
TEV-3110-60	3hp	208V	10A	15A	3	#14	3/4"	DU321RB
		230V	9A	15A	3	#14	3/4"	DU321RB
		460V	4.5A	15A	3	#14	3/4"	HU321RB
TEV-559-60 →	5hp	208V	15.5A	20A	3	#10	3/4"	DU321RB
		230V	14A	20A	3	#10	3/4"	DU321RB
		460V	7A	15A	3	#14	3/4"	HU321RB
TEV-585-60	7.5hp	208V	20A	30A	3	#10	3/4"	DU321RB
		230V	18.4A	30A	3	#10	3/4"	DU321RB
		460V	9.2A	15A	3	#14	3/4"	HU321RB
TEV-745-60	10hp	208V	26A	40A	3	#8	3/4"	DU322RB
		230V	23.8A	30A	3	#10	3/4"	DU322RB
		460V	11.9A	20A	3	#12	3/4"	HU321RB

PlymoVent assumes no liability for any electrical installations. This chart was produced as a minimum standard when sizing conductors, and related electrical components.





KTX C Series Wire Input Transmitters

303, 433 MHz Remote Control Transmitter

The Wire-Input transmitter is a modification of the Applied Wireless standard Keyfob Remote Transmitter with the replacement of the keyfob button with wires to attach to remote contacts.

The remote control transmitters in the KTX C Series are FCC Part 15 certified which allows for a quick and cost effective solution to wireless remote control system design and implementation. The transmitter's ID code is preprogrammed at the factory to one of more than 16.7 million possible codes, providing a very high degree of security. The KTXC Series transmitters incorporate a SAW resonator to ensure excellent frequency stability. Power is supplied by a widely available 12-volt alkaline battery (included).

Features

- Compatible with Applied Wireless RCRC-3R Series Code Learning Receivers
- FCC Certified
- Long Range – 300 to 1400 ft¹
- Highly Secure – More than 16.7 Million Unique Transmitter ID Codes*
- Rugged ABS Case
- Battery Included

Typical Applications

- Industrial ON/OFF Applications
- Motor Control
- Solenoid Control
- Lighting Control
- Access Control
- PLC Activation

Ordering Information

<i>Frequency (MHz)</i>	<i>Model Number</i>	<i>Matching RCR Receiver</i>
303.825	KTX303C-WIRE-AC	RCR303C-3R
433.920	KTX433C-WIRE-AC	RCR433C-3R

Specifications:

Battery: 12VDC Alkaline, type 23A

Size: 2.41 x 1.45 x 0.53 in. (61.22 x 36.83 x 13.47 mm)

FCC ID: N6PKTX303 (or QY4KTX433)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference and (2) This device must accept any interference received, including interference that may cause undesired operation.

¹Unobstructed line of sight range is typically 300-400 feet when used with Applied Wireless RCRC3R Series Remote Control Receiver and its included quarter-wave whip antenna. Optional Dipole and Active (amplified) Dipole receiver antennas are available for increased reception range.

Specifications subject to change without notice or obligation.



PRESSURE SWITCH PROCEDURE

BSAB no: T0.7
Ser.no: OS-3
Date: NOV-00
Replace:

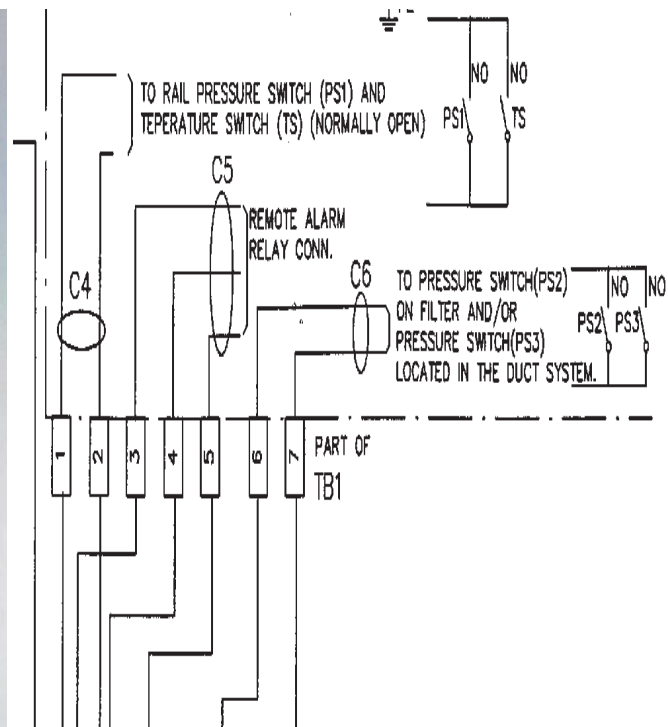
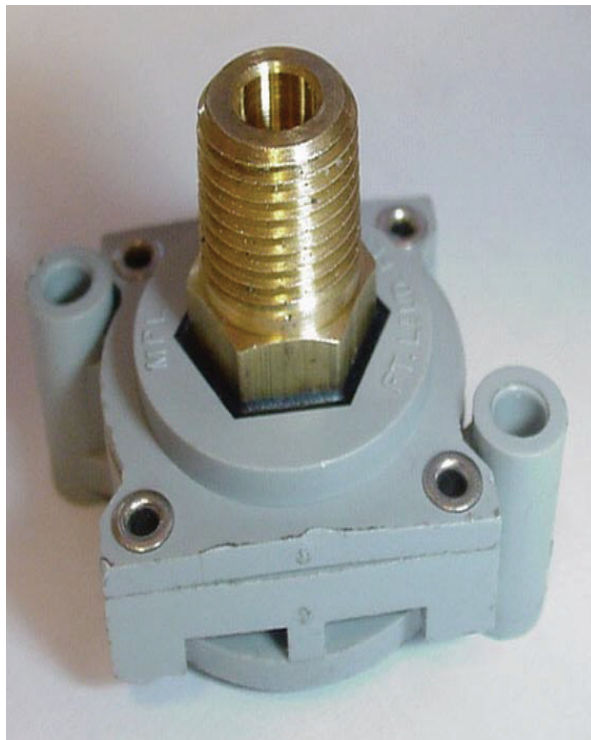
BLOWER OPERATING SYSTEM: OS-3

© Copyright 1997: All rights reserved. All information within this printed matter may not be reproduced, handed over, copied, xeroxed or translated into another language in any form or means without written permission from PlymoVent AB. PlymoVent AB reserves the right to make design changes.

1. Pressure switch: PlymoVent has incorporated a pressure switch, which senses the exhaust gas pressure generated by the vehicle. This adjustable pressure switch allows the electrical controller to start the operation of the fan. The pressure switch has an adjustment range from 0.1 spwg/ 25Pa to allows the field installer the ability to adjust the pressure setting.

2. Electrical wiring: The pressure switch utilizes a parallel connection with the temperature sensor, which is connected to terminals 1, and 2 located at terminal block 1 (TB1). Both the pressure and the temperature switch will maintain a normally open position when vehicle is not in operation. NOTE: Electrical wiring providing signal to temperature and pressure sensor must be 14 AWG/1.5 mm² wire size. Control wiring must be done by certified/licensed electrician.

3. Pressure adjustment procedure: The pressure switch allows for field adjustments by placing a screwdriver in the slotted dial in the back of the switch. By turning the dial counter clockwise you will increase the sensitivity and by turning the dial clockwise you will decrease the sensitivity. The recommended setting will be approx. 0.16 spwg/ 40Pa. The pressure setting, may vary up or down depending on the vehicles output pressure. To accurately adjust the pressure switch start the vehicle and check that the fan starts immediately, turn off vehicle and the exhaust fan should run for maximum 7 minutes . NOTE: If exhaust fan do not start adjust the pressure switch by turning dial counter clockwise 1/4 turn . If fan starts when the vehicle is not running increase pressure setting on pressure switch by turning dial clockwise 1/4 turn. Consult PlymoVent engineering department for assistance at www.eng.plymovent.com



**303, 433 MHz
3-Function Remote Control Receiver
(with On-Board 10-Amp Relays)**

The RCRC-3R Series remote control receivers are designed to provide a quick and cost effective solution for a variety of wireless applications. The receiver includes an external antenna, decoder and three 10-Amp on-board relays. The receiver offers excellent sensitivity and selectivity by the utilization of SAW technology and state-of-the-art low noise amplifiers. An external jack is provided for external long-range antenna. Units are designed to work with Applied Wireless encoders, as in the KTX-C series models. This is a learning receiver, and can learn up to 4 different coded transmitters.



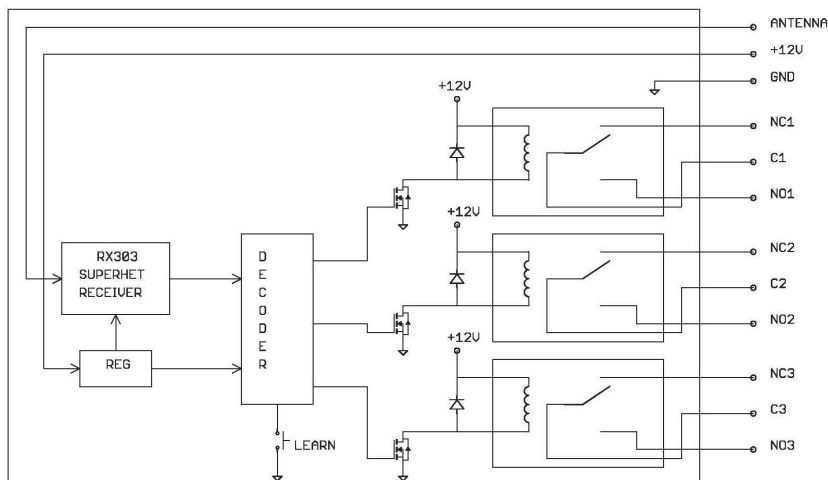
Features

- Matching Transmitters Available
- Three 10-Amp SPDT On-Board Relays
- Long Range – Up to 1000 ft¹
- Integrated Code-Learning Decoder
- Can Learn up to 4 Transmitter IDs
- 16.7+ Million Unique Transmitter IDs
- Momentary, Latched, or Toggle Operation
- 12-24 Volt DC or AC Operation
- LED Output Activation Indicators

Typical Applications

- Remote Control
- Industrial ON/OFF Applications
- Motor Control
- Solenoid Control
- Lighting Control
- Access Control
- PLC Activation

Block Diagram



¹Unobstructed line of sight range, when used with a 1/4-wave ground plane antenna. With the included whip antenna, range is 300-400 ft. Optional antennas are available for longer range. See Antenna Options table.

Specifications subject to change without notice or obligation.

300, 400 MHz Dipole Antenna

The DP300A and DP400A dipole antennas come with a 7-ft. RG-174 cable with Male Phono (RCA) connector. These antennas mate with Applied Wireless RCR series receivers to provide added gain over a standard ¼-wave whip antenna, especially when a ground-plane is not present. The dipole should be mounted vertically for omnidirectional coverage; it may be mounted horizontally for directional coverage. Comes with 3M adhesive for window mounting, or can be screwed to an appropriate surface. Dipoles with different length cables available as custom order.



Features

- Window or Wall Mountable
- 50-Ohm Impedance
- Interfaces with RCR and RCRB3R Series Receivers

Ordering Information

<i>Model</i>	<i>Frequency (MHz)</i>
DP300A	303.825 – 315.000
DP400A	418.000 - 433.920

Electrical Characteristics

Sym	Parameter	Min	Typ	Max	Unit
Z	Impedance		50		ohms
	VSWR		2:1		

Maximum Ratings

Sym	Parameter	Value	Unit
P _{in}	Input Power	1	Watt
T _{stg}	Storage Temperature	-50 to +150	C

**SUBMITTAL
NOTE
SHEET**

ELECTRICAL HOOK-UP

Electrical by others. Including conduit, wiring and connections.
Wireless pressure sensor system by Air Exchange.

MANAGEMENT SYSTEM CERTIFICATE

Certificate No:
39388-2008-AQ-USA-ANAB

Initial certification date:
25 September 2008

Valid:
26 September 2020 - 25 September 2023

This is to certify that the management system of

Plymovent Corporation

5 Corporate Drive, Cranbury, NJ, 08512, USA

has been found to conform to the Quality Management System standard:

ISO 9001:2015

This certificate is valid for the following scope:

The Assembly, Distribution and Sales of Engineered Exhaust Extraction Air Filtration Systems.

Place and date:
Katy, TX, 11 September 2020

For the issuing office:
**DNV GL - Business Assurance
1400 Ravello Drive, Katy, TX, 77449-
5164, USA**



Sherif Mekkawy
Management Representative