



POWERHALT

AIR INTAKE EMERGENCY SHUT-OFF VALVES *by PACBRAKE*

ELIMINATE THE RISK of Diesel Engine Runaway

- » Rigorous vibration, corrosion & endurance testing
- » Designed to withstand large temperature ranges
- » Compact lightweight design
- » Low power consumption
- » Low maintenance
- » Multiple activation options & valve sizes available

**INDUSTRY LEADING
2 YEAR WARRANTY**



ISO 9001
OMP-SAT Global



APPLICATION GUIDE & PRODUCT CATALOGUE

/// PACBRAKE[®] COMPANY



As a proud family run business since 1961, Pacbrake Company™ has been committed to providing its customers with the highest quality products for a wide range of applications. Pacbrake is recognized as a leading manufacturer in the design of engine brakes, exhaust brakes and various valving solutions for diesel engine applications.

Current with today's standards, Pacbrake develops valves that push the limits on environments, temperatures, torques and control strategies. One such product is PowerHalt, a growing line of Air Intake Emergency Shut-Off Valves, which are specifically geared towards diesel engines working in the oil and gas industry.

With over 2 million valves in service to-date, across a wide range of markets and applications, Pacbrake has the experience to ensure the PowerHalt product line is designed to the highest industry standards. Behind every Pacbrake product stands a team of qualified engineers, state of the art CNC manufacturing processes and an internationally recognized ISO 9001:2015 quality management system. Each product is backed by the best warranty in the industry.

HISTORY

1960-1980

- Pacbrake Company™ incorporates in 1961

1980-1990

- Pacbrake develops new engine brake technology for Detroit Diesel™, Caterpillar™ and Cummins™ engines
- Pacbrake becomes the first company to patent a combination engine brake that utilizes an exhaust valve

1990-2000

- Pacbrake starts supplying engine and exhaust brakes to Freightliner™, Kenworth™ and Detroit Diesel™
- Becomes the largest North American exhaust brake manufacturer

2000-2010

- Starts supplying valves to the US and Canadian military
- Starts supplying thermal management valves to Navistar™
- Pacbrake expands aftermarket product line to include more tow/haul solutions (air springs, in-cab controls and onboard air)

2010-PRESENT

- Pacbrake celebrates 50 years in business
- Supplies first hot EGR valve to Navistar™
- Develops the first engine brake for Cummins™ ISB engine
- Develops a line of heavy duty air springs and compressors
- Launches the first positive air shut-off valve for the oil and gas industry, in an electric configuration
- Develops a complete line of PowerHalt PH2 emergency air intake shut-off valves in various actuation configurations – electric, pneumatic, pull cable, etc
- Introduces PowerHalt PH3, a fully automatic valve: auto control/reset options
- Releases PowerHalt PH1, a line of lightweight, economical, mechanical valves
- Introduces PowerHalt PH5, the safest and most reliable valve for diesel engines



The contents of this catalogue are subject to change without notice. Contact Pacbrake for the most up-to-date information on our products

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PH1



PH2



PH3



PH5

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COMPONENTS



POWERHALT

AIR INTAKE EMERGENCY SHUT-OFF VALVES *by* PACBRAKE

Diesel Engine Overspeed Protection



Validated OEM Supplier

ISO 9001 Quality Management System



LEADERS IN VALVING TECHNOLOGY

Pacbrake brings forward vast expertise to its PowerHalt shut-off valve product line from over 50 years of valving experience and millions of valves in service to-date.

POWERHALT PROVIDES:

A complete air intake shutdown system, to prevent catastrophic damage to equipment and personnel during a diesel engine runaway

- ▶ Direct replacement to existing product lines
- ▶ Butterfly type valves in various design configurations
- ▶ Simple operating procedures
- ▶ Custom designs (customer co-development for new projects)



POWERHALT APPLICATIONS

Class 3-5 Pick-up / Chassis Cab Trucks

Class 6-8 Commercial Heavy Duty Trucks

Stationary Applications (generators, light towers, pumps, etc)

PH 1
PH 2
PH 3
PH 5
COMPONENTS

PRODUCT LINE OPTIONS

PH1



- » 1.75" to 2.5" sizes available
- » Compact and lightweight
- » Low maintenance, pull cable valve

PowerHalt's PH1 is a cost-effective solution for your safety needs. This option is recommended when the operator works in close proximity to the equipment.



- ## PH2
- » 2.8" to 5.5" sizes available
 - » Designed for extreme environments
 - » Rigorously tested, zero leakage

PowerHalt's PH2 comes with various control and actuation options that cover a broad range of industry applications and requirements. Custom kits are available for most pick-up truck applications.



- ## PH3
- » 1.75" to 4" sizes available
 - » Compact and lightweight
 - » Maintenance free, Smart system

PowerHalt's PH3 offers hands-free operation with an electronic reset function as well as various control options.



- ## PH5
- » 1.75" to 5" sizes available
 - » Operator friendly controls
 - » Rigorously tested

PowerHalt's PH5 is the newest member of the PowerHalt family. It is electrically activated and available in an automatic engine speed sensing mode or a manual control configuration.

Don't Gamble on
SAFETY

PH 1

PH 2

PH 3

PH 5

COMPONENTS

Diesel Engine Safety Overview



IS YOUR SITE AT RISK? IT'S YOUR OBLIGATION TO PROVIDE A SAFE WORK SITE

Oil and gas production, refining, petrochemical processing, and mining are all industries where flammable hydrocarbon emissions or leaks may occur in a diesel engine's operating environment.

If you work in or provide services to these industries and you are around a diesel engine, you need to be aware of the risk to your crew and equipment.

Diesel engines do not usually incorporate a throttle valve to limit air into the engine, as their speed is primarily driven by the rate of fuel flow. The risk occurs when the diesel engine is operating in an environment that contains airborne hydrocarbons or other combustibles. This can occur from any number of sources, such as gas pocket vents, fuel leaks, atomized oil spray, or even grain dust. In this state, the engine experiences uncontrolled combustion, which may lead to an overspeed condition and catastrophic engine failure or backfire. The risk continues to rise from there, as the engine's behavior can then translate to ignition of the local atmosphere, which has been shown to cause explosions. In addition to the potential for explosion, the equipment driven by the engine may also experience unpredictable behavior and become a risk to personnel in the vicinity.

Since the early 2000's, the North American oil and gas industry has seen dozens of deaths and hundreds of injuries related to diesel engine overspeed events. In that time period, the same industries have also lost hundreds of millions in equipment damage and financial losses. This is entirely preventable.

PowerHalt – Air Intake Emergency Shut off valve by Pacbrake will starve the engine of air: safely and effectively shutting it down, protecting your crew and equipment.



PH 1

PH 2

PH 3

PH 5

COMPONENTS

If you run a diesel engine it has the potential to ingest combustible vapors. **Emergency air intake shut-off valves (also known as positive air shut-off valves) are the only safe way to shut down your engine during runaway conditions.**

Your biggest challenge is to know your industry, application and risks...

The information below will help you define the industries and applications that can expose your diesel engines to these dangerous conditions:



INDUSTRY

- Oil & Gas
- Power Generation
- Transportation
- Petrochemical Processing
- Mining
- Fire Suppression
- Agriculture
- Marine
- Airport - Refueling
- Construction

APPLICATIONS

- Lighting Units
- Ambulances
- Lighting Trucks
- Underground Equipment
- Bulk Haulers
- Tankers
- Power Generators
- Grain Processing Plants
- Drilling Rigs
- Cranes
- Forklifts
- Work Boats
- Refinery Processing
- Vehicles
- Frac Trucks
- Barges
- Fueling Vehicles
- Tow Vehicles
- Support Vehicles
- Welders
- Pump Trucks
- Fire Trucks
- Vacuum Trucks

QUESTIONS AND CONSIDERATIONS

Is this application operated offshore or on ground?

- Offshore applications may have specific regulations for your equipment
- Corrosion is a concern for offshore applications so PowerHalt valves are all corrosion tested to ASTM B117 96Hrs Salt-Fog to ensure product longevity

Can manual reset be achieved easily and without placing workers at risk?

- Frequent safety checks may prove cumbersome when manually resetting the valve if it is difficult to access. Our electronic reset option is best suited to these applications
- Routing of the switch or pull cable is an important consideration to make. Pull cables are a great low cost option if your application and regulations allow

Does your system have a compressed air source?

- Pneumatically actuated valves require an air source of 60psig (minimum) to 145 psig (maximum)

Does your engine require dual shut-off valves? (This changes the specification for control)

- Large V-engines may require two or more shut-off valves
- The automatic reset option is recommended to prevent incidents where only one valve is re-opened after a shutdown, preventing engine damage

Does your application require auxiliary/multiple sources for activation in case of emergency?

- The PowerHalt PH3 series can incorporate multiple auxiliary inputs from external sources for activation of the shut off valve in the event of an emergency
- Ideal for secondary emergency monitoring systems as well as multiple locations for manual override input



PH 1

PH 2

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PH 5

COMPONENTS

VALVE INSTALLATION LOCATION

In order of preferred location to least preferred

1st POST INTERCOOLER

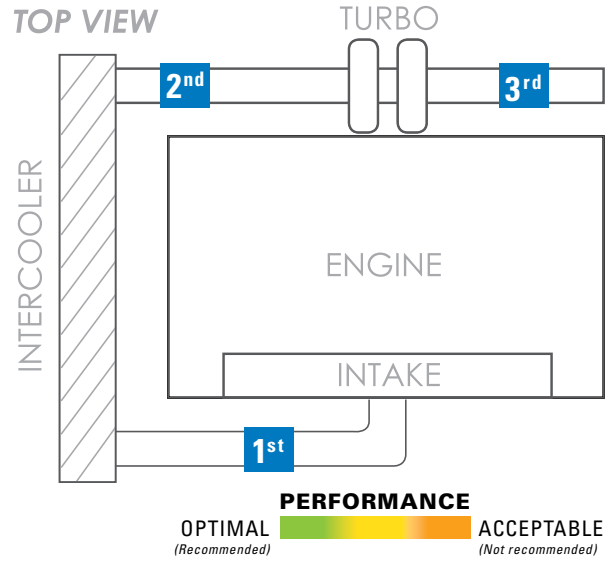
- Low Plumbing Leakage Risk
- Moderate Charge Air Temperature
- Fast Shutdown Response Time

2nd POST TURBO

- Moderate Plumbing Leakage Risk
- High Charge Air Temperature
- Moderate Shutdown Response Time

3rd PRE TURBO

- High Plumbing Leakage Risk
- Low Charge Air Temperature
- Slow Shutdown Response Time



KIT CONTENTS

	ACTUATION	RESET	Controller	Harness	Membrane Switch	Toggle Switch	Magnetic Pick-Up	Pneumatic	Pull-Cable
PH1	Pull-Cable	Manual							✓
PH2	Automatic Electric	Manual	✓	✓		✓	✓		
	Automatic Pneumatic	Manual	✓	✓		✓	✓	✓	
	Automatic Electric with Pull-Cable	Manual	✓	✓		✓	✓		✓
	Manual Electric	Manual		✓		✓			
	Manual Pneumatic	Manual		✓		✓		✓	
	Manual Electric with Pull-Cable	Manual	✓	✓		✓	✓		✓
	Pull-Cable	Manual							✓
PH3	Automatic Electric	Automatic	✓	✓	✓		✓		
	Manual Electric	Automatic	✓	✓		✓			
PH5	Automatic Electric	Manual	✓	✓		✓	✓		
	Manual Electric	Manual		✓		✓			



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System Selection Guide

CONTROL OPTIONS

OPERATOR CONTROL (MANUAL – PH3)

Manually controlled shut-off valves are more cost effective than automatic systems. However, they should only be used when the operator works in close proximity to the engine and has a clear, safe, and accessible location for shutdown activation during an emergency.



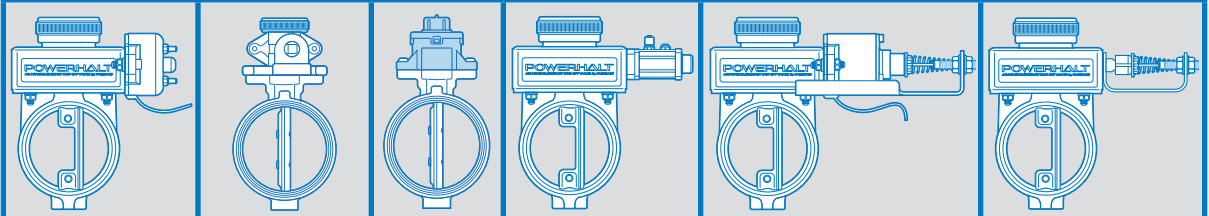
POWERGUARD CONTROLLER (AUTOMATIC – PH2/PH3/PH5)

This system provides hands-free activation of the shut-off valve. It has additional safety benefits by utilizing our PowerGuard controller and magnetic pick-up. This system includes a manual override for direct operation of the shut-off valve, which allows the operator to perform routine safety checks and tests.



ACTUATION OPTIONS

ACTUATION OPTIONS



CONTROL OPTIONS AVAILABLE	Electric (Pull Solenoid)	Electric (Pull Solenoid)	Electric (Actuator)	Pneumatic	Electric (Pull Solenoid) + Pull-Cable	Pull-Cable
Operator Control (Manual)	✓	✓	✓	✓	✓	✓
PowerGuard (Automatic)	✓	✓	✓	✓	✓	
AVAILABLE WITH	PH2	PH5	PH3	PH2	PH2	PH1, PH2

RESET OPTIONS

MANUAL RESET (PH1, PH2 & PH5)

- The knob must be manually turned to reset the valve
- Some safety procedures require this option

ELECTRONIC RESET (PH3)

- The PowerHalt controller will electronically reset the shut-off valve, the operator will not have to turn a knob
- PH3 is available to be configured in manual reset mode, to be in compliance with CSA B621-14 and B622-14

COMPONENT OVERVIEW

POWERGUARD CONTROLLER



- Monitors engine speed and activates the shut-off valve, shutting down the engine, when the user-set trip speed is reached (automatic applications only)
- Digital micro processor

PULL CABLE WITH FACEPLATE



- Stainless steel high quality pull cables are pre-assembled for easy installation and safety
- Braided lines capable of a tight radius
- Red T-handle with large nameplate for easy location

MEMBRANE SWITCH



- Low profile membrane switch with trip, test and reset functions and LED lights

HARNESS



- Custom plug and play wiring harness with weather tight connectors

TOGGLE SWITCH



- Military style toggle switch with safety cover plate to prevent false trip hazards
- Provides a means to shut down the engine or to test the valve

MOUNTING KITS



- The mounting kit comes with the appropriate mounting group to include 2 hoses and 4 clamps, ensuring a successful installation into your system
- Adapters and piping are also available as separate options

MAGNETIC PICK UP



- Measures flywheel RPM and sends a signal to the PowerGuard controller to shut down the engine when engine runaway occurs
- Various thread sizes available
- Robust designs for extreme working environments

PNEUMATIC SOLENOID



- Auto vent to allow for quick release of air pressure
- Available in 12VDC and 24VDC
- OEM grade solenoid with millions in service to-date

With the complexity of most engine systems today and the hundreds of different applications on the market, it is important to understand the requirements and product options. PowerHalt offers a broad range of products and systems that range from basic manual pull cable systems to fully automatic electronic reset systems. These come with an array of mounting installation kits, components and control options for most industry applications.

1 BEFORE YOU ORDER

» Get to know PowerHalt's product options and what is best suited for your application.

» Read our **Diesel Engine Safety Overview**.

» Review our **System Selection Guide**.

2 ORDERING MADE EASY

OPTION A ORDERING A POWERHALT KIT

Look through our PowerHalt Kit Application Guide to see whether a kit is available for your application.

OPTION B ORDERING WITH OUR CUSTOM KIT SELECTION GUIDE

If an application is not available in the Application Guide, please refer to the Custom Kit Selection Guide to order your kit from our menu style system.

Custom Kit

A Determine your valve size

B Choose an actuation method:

- Pull cable
- Electric
- Pneumatic
- Combination

C Specify the desired control option: ▪ Automatic ▪ Manual

D Select a mounting group

E Pick the components for your application (as applicable)

- Pull cable
- Magnetic pick-up size
- Harnesses

OPTION C NEW PRODUCT DEVELOPMENT

If your application is new and not available with us, please fill out the Product Development Sheet and send it to a PowerHalt customer service representative.

3 CONFIRMATION OF YOUR ORDER

Your dealer or PowerHalt representative will confirm the order and application details to ensure the system selected is best suited to your needs.



POWERHALT—FOR VALVING SOLUTIONS AS VARIED AS OUR CUSTOMERS

PH 1

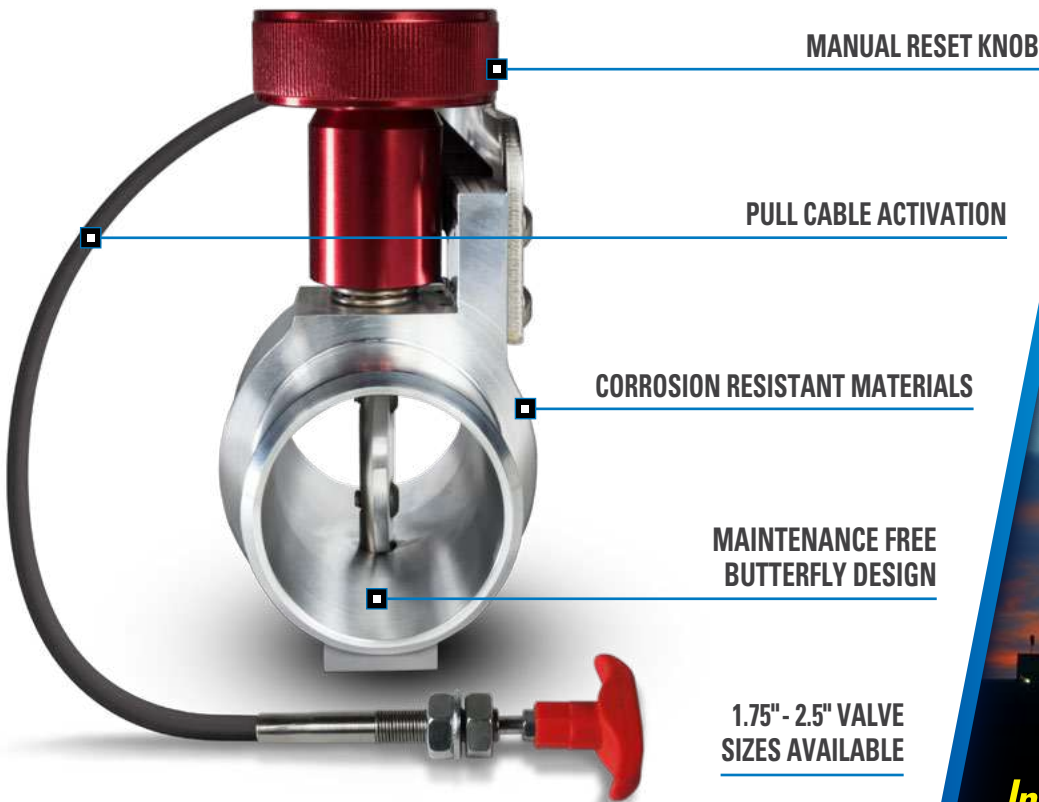
PH 2

PH 3

PH 5

COMPONENTS

An extensively tested, cost-effective and easy to operate valve



PowerHalt's PH1 air intake emergency shut-off valve provides a reliable and safe method for shutting down an engine. PH1 is a simple, cost-effective valve that can be customized for specific client needs.

Increased PROTECTION
Reduced Cost

A Complete Installation with Customizable Solutions

- ▶ PH1 is a customizable valve – Choose the valve for your application, mounting kit and pull cable and receive all the components necessary for a complete installation
- ▶ EASY INSTALLATION
- ▶ LOW PART COUNT

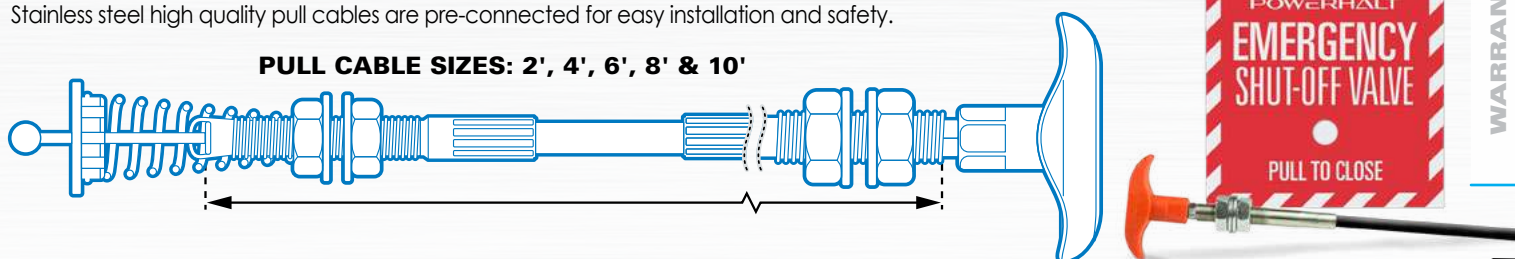
PH1 VALVE SIZES



PH1 PULL CABLE OPTIONS

Stainless steel high quality pull cables are pre-connected for easy installation and safety.

PULL CABLE SIZES: 2', 4', 6', 8' & 10'



PH1 FEATURES

- » Rigorous vibration, corrosion and endurance testing
- » Designed to withstand large temperature ranges
- » Compact lightweight design
- » Low maintenance
- » Economical

PH1 POWERHALT SHUT-OFF VALVES

MAKE / MODEL	SIZE	CONTROL / RESET	ACTUATION	KIT #	INSTALL MANUAL
UNIVERSAL APPLICATION					
Generic	1.75"	Manual	Pull Cable*	C50148	6390
Generic	2.0"	Manual	Pull Cable*	C50145	6390
Generic	2.25"	Manual	Pull Cable*	C50146	6390
Generic	2.5"	Manual	Pull Cable*	C50147	6390

***NOTE: A mounting group & pull cable are not included. See charts below to add correct sizes for specific applications.**

PH1 POWERHALT SHUT-OFF VALVE ACCESSORIES

ACCESSORY	MAKE / MODEL	SIZE	PART #
PULL CABLE (MUST ADD TO PH1 VALVE KIT FOR A COMPLETE SYSTEM)			
Pull Cable	Universal	2 ft	C50018
Pull Cable	Universal	4 ft	C50022
Pull Cable	Universal	6 ft	C50026
Pull Cable	Universal	8 ft	C50030
Pull Cable	Universal	10 ft	C50035

MOUNTING GROUP (MUST ADD TO PH1 VALVE KIT FOR A COMPLETE SYSTEM)			
Mounting Group	Universal	1.75"	C50117
Mounting Group	Universal	2.0"	C50118
Mounting Group	Universal	2.25"	C50119
Mounting Group	Universal	2.5"	C50116

A highly engineered product with extensive testing and validation



LARGE VISIBLE RESET KNOB

ELECTRICAL, PNEUMATIC & MANUAL ACTIVATION OPTIONS

CORROSION RESISTANT MATERIALS

INNOVATIVE SEALING SYSTEMS

12 VDC OR 24 VDC SYSTEMS

2.8" - 5.5" VALVE SIZES AVAILABLE

PowerHalt's PH2 air intake emergency shut-off valves range from basic manual pull cable valves to fully automatic manual reset systems, with an array of mounting kits, accessories & control options for most industry applications.



INDUSTRY
Leading Safety Solutions

A Complete Installation - All In One Box

- ▶ Kits include all necessary hose adapters, clamps, and hardware required for an install
- ▶ Weather tight plug & play wiring harness, custom to each application
- ▶ Truck/Engine kit cross reference guides for easy kit specification
- ▶ **EASY INSTALLATION**
- ▶ **LOW PART COUNT**



PH2 POWERGUARD AUTOMATIC CONTROL

AN INTELLIGENT CONTROLLER OFFERING HANDS-FREE ACTIVATION

Monitors engine speed input and automatically activates the shut-off valve, stopping the engine when the user-set trip speed is reached



PH2 SWITCH FEATURES



- ◀ Military style toggle switch with safety cover to prevent false trip hazards
- Provides a manual means to shutdown the engine or test the valve

PH2 FEATURES

- » Rigorous vibration, corrosion and endurance testing
- » Zero leakage, designed for extreme environments
- » In compliance with CSA B621-14 and B622-14

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PH2 POWERHALT SHUT-OFF VALVES*

MAKE / MODEL	SIZE	CONTROL / RESET	ACTUATION	KIT #	INSTALL MANUAL
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CLASS 3-5 PICK-UP TRUCK / CHASSIS CAB TRUCKS

DODGE

1994-2002 Dodge Ram with a 5.9L Cummins Diesel Engine	3.5"	Manual/Manual	Electric	C50200	6209
1994-2002 Dodge Ram with a 5.9L Cummins Diesel Engine	3.5"	Auto/Manual	Electric	C50200A	6284
2007.5-2009 Dodge Ram with a 6.7L Cummins Diesel Engine	3.5"	Manual/Manual	Electric	C50201	6265
2007.5-2009 Dodge Ram with a 6.7L Cummins Diesel Engine	3.5"	Auto/Manual	Electric	C50201A	6283
2010-2012 Dodge Ram with a 6.7L Cummins Diesel Engine	3.5"	Manual/Manual	Electric	C50202	6265
2010-2012 Dodge Ram with a 6.7L Cummins Diesel Engine	3.5"	Auto/Manual	Electric	C50202A	6283
2013-2018 Dodge Ram with a 6.7L Cummins Diesel Engine	3.5"	Manual/Manual	Electric	C50204	6266
2013-2018 Dodge Ram with a 6.7L Cummins Diesel Engine	3.5"	Auto/Manual	Electric	C50204A	6279

FORD

2011-2016 Ford with a 6.7L Powerstroke Diesel Engine	3.5"	Manual/Manual	Electric	C50207	6278
2011-2016 Ford with a 6.7L Powerstroke Diesel Engine	3.5"	Auto/Manual	Electric	C50207A	6285

GM / CHEVROLET

2011-2016 GMC / CHEV with a 6.6L (LML) Duramax Diesel Engine	2.8"	Manual/Manual	Electric	C50210	6296
2011-2016 GMC / CHEV with a 6.6L (LML) Duramax Diesel Engine	2.8"	Auto/Manual	Electric	C50210A	6297

***Note:** All PH2 kits are 12VDC unless otherwise stated

PH2 POWERHALT SHUT-OFF VALVES*

MAKE / MODEL	SIZE	CONTROL / RESET	ACTUATION	KIT #	INSTALL MANUAL
CLASS 6 - 8 COMMERCIAL HEAVY DUTY TRUCKS					
Any Commercial Truck	Generic	Manual/Manual	Pull Cable	Contact Pacbrake	6351
Any Commercial Truck	Generic	Manual/Manual	Pneumatic	Contact Pacbrake	6252
Any Commercial Truck	3.0"	Manual/Manual	Electric	C50218	6274
Any Commercial Truck (24 VDC)	3.0"	Manual/Manual	Electric	C50218-24	6274
Any Commercial Truck	3.0"	Auto/Manual	Electric	C50218A	6275
Any Commercial Truck (24 VDC)	3.0"	Auto/Manual	Electric	C50218A-24	6275
Any Commercial Truck	3.5"	Manual/Manual	Electric	C50217	6274
Any Commercial Truck	3.5"	Auto/Manual	Electric	C50217A	6275
Volvo/Mack	3.5"	Auto/Manual	Pneumatic	C50285A	6438
Any Commercial Truck	4.0"	Manual/Manual	Electric	C50209	6274
Any Commercial Truck (24 VDC)	4.0"	Manual/Manual	Electric	C50209-24	6274
Any Commercial Truck	4.0"	Auto/Manual	Electric	C50209A	6275
Any Commercial Truck (24 VDC)	4.0"	Auto/Manual	Electric	C50209A-24	6275
Commercial Truck with a Detroit DD13, 15 or 16 Engine	4.0"	Manual/Manual	Electric	C50205	6290
Commercial Truck with a Detroit DD13, 15 or 16 Engine	4.0"	Auto/Manual	Electric	C50205A	6289
Kenworth T800 with an ISX Diesel Engine	4.0"	Manual/Manual	Electric	C50219	6311
Kenworth T800 with an ISX Diesel Engine	4.0"	Auto/Manual	Electric	C50219A	6312
Any Commercial Truck	5.0"	Auto/Manual	Electric	C50247A	6275
Any Commercial Truck (24 VDC)	5.0"	Auto/Manual	Electric	C50247A-24	6275
Any Commercial Truck	5.0"	Manual/Manual	Electric	C50247	6274

**Note: All PH2 kits are 12VDC unless otherwise stated*

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PH 2

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COMPONENTS

WARRANTY

PH2 POWERHALT SHUT-OFF VALVES*

MAKE / MODEL	SIZE	CONTROL / RESET	ACTUATION	KIT #	INSTALL MANUAL
Any Commercial Truck (24 VDC)	5.0"	Manual/Manual	Electric	C50247-24	6274

STATIONARY EQUIPMENT

UNIVERSAL APPLICATION

Generic	2.8"-5.0"	Auto/Manual	Electric – Double Pull Cable	Contact Pacbrake	6372
Generic	2.8"-5.0"	Manual/Manual	Pull Cable	Contact Pacbrake	6351
Generic	4.0"	Manual/Manual	Electric	C50209	6274
Generic (24 VDC)	4.0"	Manual/Manual	Electric	C50209-24	6274
Generic	4.0"	Auto/Manual	Electric	C50209A	6275
Generic (24 VDC)	4.0"	Auto/Manual	Electric	C50209A-24	6275
Generic	5.0"	Auto/Manual	Electric	C50247A	6275
Generic (24 VDC)	5.0"	Auto/Manual	Electric	C50247A-24	6275
Generic	5.0"	Manual/Manual	Electric	C50247	6274
Generic (24 VDC)	5.0"	Manual/Manual	Electric	C50247-24	6274
Generic	5.5"	Auto/Manual	Electric	C50239A	6275

GENERATORS

Cummins/DS-GA A-E/QSB7	3.0"	Auto/Manual	Electric – Micro Switch	C50220A	6320
Cummins/C60D6R/QSB5 Cummins/C80D6R/QSB5 Cummins/100D6R/QSB	3.0"	Auto/Manual	Electrical – Micro Switch	C50227A	6333
Cummins/DSFAA-35 kw/DSFAB-40kw/DS-FAC-50 kw/DSFAD-60 kw/DSFAE-80 kw	3.0"	Auto/Manual	Electrical – Micro Switch	C50231A	6375
Cummins/C300 D6R/QSM	4.0"	Auto/Manual	Electric – Micro Switch	C50232A	6337
Cummins/DFEG (350)/FEH (400)/DFEJ (450)/DFEK (500) (24 VDC)	5.0"	Auto/Manual	Electrical – Micro Switch	C50237A	6378
Generic	5.0"	Auto/Manual	Electric	C50247A	6275
Generic (24 VDC)	5.0"	Auto/Manual	Electric	C50247A-24	6275
Generic	5.0"	Manual/Manual	Electric	C50247	6274
Generic (24 VDC)	5.0"	Manual/Manual	Electric	C50247-24	6274

*Note: All PH2 kits are 12VDC unless otherwise stated

A smart system with the safest control options on the market



WEATHER PROOF CONNECTOR

VALVE POSITION FEEDBACK

ELECTRONIC VALVE RESET

(Manual reset mode is in compliance with CSA B621-14 & B622-14)

CORROSION RESISTANT MATERIALS

MAINTENANCE FREE BUTTERFLY VALVE DESIGN

12 VDC OR 24 VDC SYSTEMS

1.75" - 4" VALVE SIZES AVAILABLE

PowerHalt's PH3 air intake emergency shut-off valves are available with various control options. They have a wide range of operating temperatures and working conditions for a variety of applications to meet industry needs.

KEY BENEFITS

- ▶ Easy to install kits for many applications
- ▶ Electronic reset for in-cab control/comfort when testing shut-off valve
- No more lifting the hood to manually reset (Manual reset mode is in compliance with CSA B621-14 & B622-14)
- ▶ Control option available with PowerGuard automatic overspeed limiter or manual PowerGuard

PH3 POWERGUARD CONTROL OPTIONS



◀ **POWERGUARD CONTROLLER (AUTOMATIC)**

This system provides hands-free activation of the shut-off valve. It has additional safety benefits by utilizing our PowerGuard Automatic controller and magnetic pick-up. This system includes a manual override for direct operation of the shutoff valve, which allows the operator to perform routine safety checks and tests. PH3 is available to be configured in manual reset mode to be in compliance with CSA B621-14 and B622-14



◀ **OPERATOR CONTROL (MANUAL)**

Manually controlled shut-off valves are more economical than automatic systems. However, they should only be used when the operator works in close proximity to the engine and has a clear, safe, and accessible location for shutdown activation during an emergency

INCREASE
Your Up Time



PH3 FEATURES

- » Rigorous vibration, corrosion and endurance testing
- » Designed to withstand a wide range of temperatures
- » Low power consumption and maintenance
- » Operator friendly operation with manual override and electronic reset
- » Support for multiple programmable trip speeds
- » In compliance with CSA B621-14 and B622-14

CONTROL COMPONENTS



Membrane Switch



Magnetic Pick-up



Toggle Switch



Panel Light Indicator

PH 1
PH 2
PH 3
PH 5
COMPONENTS
WARRANTY

PH3 POWERHALT SHUT-OFF VALVES

DESCRIPTION	SIZE	CONTROL/ RESET	ACTUATION	KIT #	INSTALL MANUAL
UNIVERSAL KITS (COMMERCIAL TRUCKS/STATIONARY EQUIPMENT)					
*NOTE: C50321 Kits are 1.75" Valves using REDUCING HOSES to 1.5"					
Automatic MAG 3/8" WITH 5' HARNESS	<i>*See Note</i>	Auto / Auto or Manual	Electric	C50321A	6325 / 6452
Automatic MAG 3/8" WITH 10' HARNESS	<i>*See Note</i>	Auto / Auto or Manual	Electric	C50321A-10	6325 / 6452
Automatic CUMMINS CRANK POSITION WIRE T-JUMPER WITH 10' HARNESS	<i>*See Note</i>	Auto / Auto or Manual	Electric	C50321A-J10	6325 / 6452
Automatic – R Terminal R TERMINAL WITH 5' HARNESS	<i>*See Note</i>	Auto / Auto or Manual	Electric	C50321A-R	6325 / 6452
Automatic – R Terminal R TERMINAL WITH 10' HARNESS	<i>*See Note</i>	Auto / Auto or Manual	Electric	C50321A-R10	6325 / 6452
Manual 5' HARNESS - 12 & 24 VDC	<i>*See Note</i>	Manual / Auto	Electric	C50321T	6481
Manual 10' HARNESS - 12 & 24 VDC	<i>*See Note</i>	Manual / Auto	Electric	C50321T-10	6481
Manual 15' HARNESS - 12 & 24 VDC	<i>*See Note</i>	Manual / Auto	Electric	C50321T-15	6481
Automatic MAG 3/8" WITH 5' HARNESS	1.75"	Auto / Auto or Manual	Electric	C50224A	6325 / 6452
Automatic MAG 3/8" WITH 10' HARNESS	1.75"	Auto / Auto or Manual	Electric	C50224A-10	6325 / 6452
Automatic CUMMINS CRANK POSITION WIRE T-JUMPER WITH 10' HARNESS	1.75"	Auto / Auto or Manual	Electric	C50224A-J10	6325 / 6452
Automatic – R Terminal R TERMINAL WITH 5' HARNESS	1.75"	Auto / Auto or Manual	Electric	C50224A-R	6325 / 6452
Automatic – R Terminal R TERMINAL WITH 10' HARNESS	1.75"	Auto / Auto or Manual	Electric	C50224A-R10	6325 / 6452
Manual 5' HARNESS - 12 & 24 VDC	1.75"	Manual / Auto	Electric	C50224T	6481
Manual 10' HARNESS - 12 & 24 VDC	1.75"	Manual / Auto	Electric	C50224T-10	6481
Manual 15' HARNESS - 12 & 24 VDC	1.75"	Manual / Auto	Electric	C50224T-15	6481
Automatic MAG 3/8" WITH 5' HARNESS	2.0"	Auto / Auto or Manual	Electric	C50225A	6325 / 6452
Automatic MAG 3/8" WITH 10' HARNESS	2.0"	Auto / Auto or Manual	Electric	C50225A-10	6325 / 6452
Automatic CUMMINS CRANK POSITION WIRE T-JUMPER WITH 10' HARNESS	2.0"	Auto / Auto or Manual	Electric	C50225A-J10	6325 / 6452
Automatic – R Terminal R TERMINAL WITH 5' HARNESS	2.0"	Auto / Auto or Manual	Electric	C50225A-R	6325 / 6452
Automatic – R Terminal R TERMINAL WITH 10' HARNESS	2.0"	Auto / Auto or Manual	Electric	C50225A-R10	6325 / 6452
Manual 5' HARNESS - 12 & 24 VDC	2.0"	Manual / Auto	Electric	C50225T	6481
Manual 10' HARNESS - 12 & 24 VDC	2.0"	Manual / Auto	Electric	C50225T-10	6481
Manual 15' HARNESS - 12 & 24 VDC	2.0"	Manual / Auto	Electric	C50225T-15	6481

PH 1

PH 2

PH 3

PH 5

COMPONENTS

WARRANTY

PH3 POWERHALT SHUT-OFF VALVES

DESCRIPTION	SIZE	CONTROL/ RESET	ACTUATION	KIT #	INSTALL MANUAL
UNIVERSAL KITS (COMMERCIAL TRUCKS/STATIONARY EQUIPMENT)					
Automatic MAG 3/8" WITH 5' HARNESS	2.25"	Auto/Auto or Manual	Electric	C50252A	6325/6452
Automatic MAG 3/8" WITH 10' HARNESS	2.25"	Auto/Auto or Manual	Electric	C50252A-10	6325/6452
Automatic CUMMINS CRANK POSITION WIRE T-JUMPER WITH 10' HARNESS	2.25"	Auto/Auto or Manual	Electric	C50252A-J10	6325/6452
Automatic – R Terminal R TERMINAL WITH 5' HARNESS	2.25"	Auto/Auto or Manual	Electric	C50252A-R	6325/6452
Automatic – R Terminal R TERMINAL WITH 10' HARNESS	2.25"	Auto/Auto or Manual	Electric	C50252A-R10	6325/6452
Manual 5' HARNESS - 12 & 24 VDC	2.25"	Manual/Auto	Electric	C50252T	6481
Manual 10' HARNESS - 12 & 24 VDC	2.25"	Manual/Auto	Electric	C50252T-10	6481
Manual 15' HARNESS - 12 & 24 VDC	2.25"	Manual/Auto	Electric	C50252T-15	6481
Automatic MAG 3/8" WITH 5' HARNESS	2.5"	Auto/Auto or Manual	Electric	C50243A	6325/6452
Automatic MAG 3/8" WITH 10' HARNESS	2.5"	Auto/Auto or Manual	Electric	C50243A-10	6325/6452
Automatic CUMMINS CRANK POSITION WIRE T-JUMPER WITH 10' HARNESS	2.5"	Auto/Auto or Manual	Electric	C50243A-J10	6325/6452
Automatic – R Terminal R TERMINAL WITH 5' HARNESS	2.5"	Auto/Auto or Manual	Electric	C50243A-R	6325/6452
Automatic – R Terminal R TERMINAL WITH 10' HARNESS	2.5"	Auto/Auto or Manual	Electric	C50243A-R10	6325/6452
Manual 5' HARNESS - 12 & 24 VDC	2.5"	Manual/Auto	Electric	C50243T	6481
Manual 10' HARNESS - 12 & 24 VDC	2.5"	Manual/Auto	Electric	C50243T-10	6481
Manual 15' HARNESS - 12 & 24 VDC	2.5"	Manual/Auto	Electric	C50243T-15	6481
Automatic MAG 3/8" WITH 5' HARNESS	2.75"	Auto/Auto or Manual	Electric	C50244A	6325/6452
Automatic MAG 3/8" WITH 10' HARNESS	2.75"	Auto/Auto or Manual	Electric	C50244A-10	6325/6452
Automatic CUMMINS CRANK POSITION WIRE T-JUMPER WITH 10' HARNESS	2.75"	Auto/Auto or Manual	Electric	C50244A-J10	6325/6452
Automatic – R Terminal R TERMINAL WITH 5' HARNESS	2.75"	Auto/Auto or Manual	Electric	C50244A-R	6325/6452
Automatic – R Terminal R TERMINAL WITH 10' HARNESS	2.75"	Auto/Auto or Manual	Electric	C50244A-R10	6325/6452
Manual 5' HARNESS - 12 & 24 VDC	2.75"	Manual/Auto	Electric	C50244T	6481
Manual 10' HARNESS - 12 & 24 VDC	2.75"	Manual/Auto	Electric	C50244T-10	6481
Manual 15' HARNESS - 12 & 24 VDC	2.75"	Manual/Auto	Electric	C50244T-15	6481

PH 1

PH 2

PH 3

PH 5

COMPONENTS

WARRANTY

PH3 POWERHALT SHUT-OFF VALVES

DESCRIPTION	SIZE	CONTROL/ RESET	ACTUATION	KIT #	INSTALL MANUAL
UNIVERSAL KITS (COMMERCIAL TRUCKS/STATIONARY EQUIPMENT)					
Automatic MAG 3/4" WITH 5' HARNESS	3.0"	Auto/Auto or Manual	Electric	C50226A	6325/6452
Automatic MAG 3/4" WITH 10' HARNESS	3.0"	Auto/Auto or Manual	Electric	C50226A-10	6325/6452
Automatic CUMMINS CRANK POSITION WIRE T-JUMPER WITH 10' HARNESS	3.0"	Auto/Auto or Manual	Electric	C50226A-J10	6325/6452
Automatic – R Terminal R TERMINAL WITH 5' HARNESS	3.0"	Auto/Auto or Manual	Electric	C50226A-R	6325/6452
Automatic – R Terminal R TERMINAL WITH 10' HARNESS	3.0"	Auto/Auto or Manual	Electric	C50226A-R10	6325/6452
Manual 5' HARNESS - 12 & 24 VDC	3.0"	Manual/Auto	Electric	C50226T	6481
Manual 10' HARNESS - 12 & 24 VDC	3.0"	Manual/Auto	Electric	C50226T-10	6481
Manual 15' HARNESS - 12 & 24 VDC	3.0"	Manual/Auto	Electric	C50226T-15	6481
Automatic MAG 3/4" WITH 5' HARNESS	3.5"	Auto/Auto or Manual	Electric	C50256A	6325/6452
Automatic MAG 3/4" WITH 10' HARNESS	3.5"	Auto/Auto or Manual	Electric	C50256A-10	6325/6452
Automatic CUMMINS CRANK POSITION WIRE T-JUMPER WITH 10' HARNESS	3.5"	Auto/Auto or Manual	Electric	C50256A-J10	6325/6452
Automatic – R Terminal R TERMINAL WITH 5' HARNESS	3.5"	Auto/Auto or Manual	Electric	C50256A-R	6325/6452
Automatic – R Terminal R TERMINAL WITH 10' HARNESS	3.5"	Auto/Auto or Manual	Electric	C50256A-R10	6325/6452
Automatic MAG 3/4" WITH 5' HARNESS	4.0"	Auto/Auto or Manual	Electric	C50228A	6325/6452
Automatic MAG 3/4" WITH 10' HARNESS	4.0"	Auto/Auto or Manual	Electric	C50228A-10	6325/6452
Automatic CUMMINS CRANK POSITION WIRE T-JUMPER WITH 10' HARNESS	4.0"	Auto/Auto or Manual	Electric	C50228A-J10	6325/6452
Automatic – R Terminal R TERMINAL WITH 5' HARNESS	4.0"	Auto/Auto or Manual	Electric	C50228A-R	6325/6452
Automatic – R Terminal R TERMINAL WITH 10' HARNESS	4.0"	Auto/Auto or Manual	Electric	C50228A-R10	6325/6452

PH 1

PH 2

PH 3

PH 5

COMPONENTS

PH3 POWERHALT SHUT-OFF VALVES

MAKE / MODEL	SIZE	CONTROL / RESET	ACTUATION	KIT #	INSTALL MANUAL
CLASS 3-5 PICK-UP TRUCK / CHASSIS CAB TRUCKS					
2013 - 2017 Dodge Ram	3.5"	Auto / Auto or Manual	Electric	C50254A	6409
2019+ Dodge Ram	3.5"	Auto / Auto or Manual	Electric	C50330A	6409
2017 Ford 6.7L Powerstroke	2.75"	Auto / Auto or Manual	Electric	C50278A	6423
2017 GM Duramax	2.75"	Auto / Auto or Manual	Electric	C50287A	6446
2011-2015 Mercedes Sprinter (3.0L V6)	2.25"	Auto / Auto or Manual	Electric	C50230A	6313

CLASS 6 - 8 COMMERCIAL HEAVY DUTY TRUCKS

Mack/Volvo Generic	3.5"	Auto / Auto or Manual	Electric	C50255A	6410
Mack/Volvo Generic FOR USE WITH "R" TERMINAL	3.5"	Auto / Auto or Manual	Electric	C50255A-R	6410
Detroit DD 13, 15 or 16 Engine	4.0"	Auto / Auto or Manual	Electric	C50223A	6332
MX13 Engine PUSH-IN TYPE MAG	4.0"	Auto / Auto or Manual	Electric	C50242A	6369
MX13 Engine CRANK POSITION SENSOR T JUMPER	4.0"	Auto / Auto or Manual	Electric	C50242A-J	6369

STATIONARY EQUIPMENT

COMPRESSOR

Doosan 1600 - Automatic MAG 5/8" WITH 10' HARNESS	4.0"	Auto / Auto or Manual	Electric	C50315A	6325 / 6452
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LIGHT TOWER

PH3 - LTW20 / 20KW / BV - 4LEZ Engine	2.0"	Auto / Auto or Manual	Electric	C50222A	6325 / 6452
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WELDERS

***NOTE: C50321 Kits are 1.75" Valves using REDUCERS to 1.5"**

PH3 Vantage 400 Welder	<i>*See Note</i>	Auto / Auto or Manual	Electric	C50321A	6325 / 6452
PH3 Vantage 400 Welder	1.75"	Auto / Auto or Manual	Electric	C50224A	6325 / 6452

UNIVERSAL

Isuzu 3CJ Engine	1.75"	Auto / Auto or Manual	Electric	C50246A	6325 / 6452
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PH3 POWERHALT SHUT-OFF VALVE ACCESSORIES

ACCESSORY	MAKE / MODEL	SYSTEM VOLTAGE	KIT #	INSTALL MANUAL
AUXILIARY INPUT JUMPER HARNESS				
Auxiliary Input Jumper Harness	Universal	12VDC	C50159	6396
Auxiliary Input Jumper Harness	Universal	24VDC	C50159-24	6396

PH 1

PH 2

PH 3

PH 5

COMPONENTS

WARRANTY

Introducing PH5 – the newest member of the PowerHalt family



LARGE VISIBLE RESET KNOB

VALVE POSITION FEEDBACK (OPTIONAL)

ELECTRICAL ACTIVATION

CORROSION RESISTANT MATERIALS

**MAINTENANCE FREE
BUTTERFLY VALVE DESIGN**

12 VDC OR 24 VDC SYSTEMS

**1.75" - 5" VALVE
SIZES AVAILABLE**

PowerHalt's PH5 air intake emergency shut-off valve is electrically activated and available in automatic engine speed sensing or manual control configurations.



PROTECTION
For Your Equipment & Crew

PH5 FEATURES

- » Operator friendly operation with manual reset and override
- » High temperature design for challenging thermal applications
- » Rigorous vibration, corrosion and endurance testing
- » In compliance with CSA B621-14 and B622-14

KEY BENEFITS

- ▶ Easy to install kits with multiple universal applications
- ▶ Kits include all necessary hose adapters, clamps and hardware for installation. Weather tight plug & play wiring harnesses
- ▶ Control option available with PowerGuard automatic overspeed limiter or a manual control configuration is also available

PH5 POWERGUARD CONTROL OPTIONS



POWERGUARD CONTROLLER (AUTOMATIC)

Monitors engine speed through a gear tooth sensor mounted to the transmission bell housing using an existing auxiliary port or by the drilling and tapping of a new port. The controller has a programmable trip point – when the programmed pre-set speed is exceeded, emergency engine shutdown will occur automatically. Emergency shutdown can be activated at any time through a manual override switch

- ▶ **Automatically** activates after programmable engine speed trip point is exceeded
- ▶ **Manual** override from cab/panel mounted switch

CONTROL COMPONENTS



Valve Position Switch

Magnetic Pick-up

Toggle Switch

Panel Light Indicator

PH5 POWERHALT SHUT-OFF VALVES

DESCRIPTION	SIZE	CONTROL/ RESET	ACTUATION	KIT #	INSTALL MANUAL
UNIVERSAL KITS					
Automatic Generic	1.75"	Auto/Manual	Electric	C50290A-12	6447/6448
Automatic Generic (24 VDC)	1.75"	Auto/Manual	Electric	C50290A-24	6447/6448
Manual Generic	1.75"	Manual/Manual	Electric	C50290-12	6447/6448
Manual Generic (24 VDC)	1.75"	Manual/Manual	Electric	C50290-24	6447/6448
Automatic Generic	2.0"	Auto/Manual	Electric	C50291A-12	6447/6448
Automatic Generic (24 VDC)	2.0"	Auto/Manual	Electric	C50291A-24	6447/6448
Manual Generic	2.0"	Manual/Manual	Electric	C50291-12	6447/6448
Manual Generic (24 VDC)	2.0"	Manual/Manual	Electric	C50291-24	6447/6448
Automatic Generic	2.25"	Auto/Manual	Electric	C50292A-12	6447/6448
Automatic Generic (24 VDC)	2.25"	Auto/Manual	Electric	C50292A-24	6447/6448
Manual Generic	2.25"	Manual/Manual	Electric	C50292-12	6447/6448
Manual Generic (24 VDC)	2.25"	Manual/Manual	Electric	C50292-24	6447/6448
Automatic Generic	2.5"	Auto/Manual	Electric	C50293A-12	6447/6448
Automatic Generic (24 VDC)	2.5"	Auto/Manual	Electric	C50293A-24	6447/6448
Manual Generic	2.5"	Manual/Manual	Electric	C50293-12	6447/6448
Manual Generic (24 VDC)	2.5"	Manual/Manual	Electric	C50293-24	6447/6448
Automatic Generic	2.75"	Auto/Manual	Electric	C50294A-12	6447/6448
Automatic Generic (24 VDC)	2.75"	Auto/Manual	Electric	C50294A-24	6447/6448
Manual Generic	2.75"	Manual/Manual	Electric	C50294-12	6447/6448
Manual Generic (24 VDC)	2.75"	Manual/Manual	Electric	C50294-24	6447/6448

*** Note:** All PH5 kits are 12VDC unless otherwise stated

PH 1

PH 2

PH 3

PH 5

COMPONENTS

WARRANTY

PH5 POWERHALT SHUT-OFF VALVES

DESCRIPTION	SIZE	CONTROL/ RESET	ACTUATION	KIT #	INSTALL MANUAL
UNIVERSAL KITS (COMMERCIAL TRUCKS/STATIONARY EQUIPMENT)					
Automatic Generic	3.0"	Auto/Manual	Electric	C50295A-12	6447 / 6448
Automatic Generic (24 VDC)	3.0"	Auto/Manual	Electric	C50295A-24	6447 / 6448
Manual Generic	3.0"	Manual/Manual	Electric	C50295-12	6447 / 6448
Manual Generic (24 VDC)	3.0"	Manual/Manual	Electric	C50295-24	6447 / 6448
Automatic Generic	3.5"	Auto/Manual	Electric	C50296A-12	6447 / 6448
Automatic Generic (24 VDC)	3.5"	Auto/Manual	Electric	C50296A-24	6447 / 6448
Manual Generic	3.5"	Manual/Manual	Electric	C50296-12	6447 / 6448
Manual Generic (24 VDC)	3.5"	Manual/Manual	Electric	C50296-24	6447 / 6448
Automatic Generic	4.0"	Auto/Manual	Electric	C50297A-12	6447 / 6448
Automatic Generic (24 VDC)	4.0"	Auto/Manual	Electric	C50297A-24	6447 / 6448
Manual Generic	4.0"	Manual/Manual	Electric	C50297-12	6447 / 6448
Manual Generic (24 VDC)	4.0"	Manual/Manual	Electric	C50297-24	6447 / 6448
Automatic Generic	5.0"	Auto/Manual	Electric	C50298A-12	6447 / 6448
Automatic Generic (24 VDC)	5.0"	Auto/Manual	Electric	C50298A-24	6447 / 6448
Manual Generic	5.0"	Manual/Manual	Electric	C50298-12	6447 / 6448
Manual Generic (24 VDC)	5.0"	Manual/Manual	Electric	C50298-24	6447 / 6448
COMMERCIAL TRUCKS					
Commercial Truck with a Detroit DD13, 15 or 16 Engine	4.0"	Auto/Manual	Electric	C50303A-12	6447 / 6448
Commercial Truck with a Detroit DD13, 15 or 16 Engine	4.0"	Manual/Manual	Electric	C50303-12	6447 / 6448

**Note: All PH5 kits are 12VDC unless otherwise stated*

PH5 POWERHALT SHUT-OFF VALVE ACCESSORIES

ACCESSORY	KIT #	INSTALL MANUAL
VALVE POSITION SWITCH		
Valve Position Switch (NORMALLY OPEN)	C50288	6447
Valve Position Switch (NORMALLY CLOSED)	C50289	6447

POWERHALT

AIR INTAKE EMERGENCY SHUT-OFF VALVES

Specification & Data Section

VALVE OPTIONS

PH1



- 1.75" to 2.5" sizes available
- Manual activation, pull cable valve
- Fully mechanical with manual reset
- Compact and lightweight

PH2



- 2.8" to 5.5" sizes available
- PowerGuard (automatic) or operator control (manual) activations available, manual reset
- Electric, pneumatic or pull cable activated
- Zero leakage
- In compliance with CSA B621-14 and B622-14

PH3



- 1.75" to 4" sizes available
- PowerGuard (automatic) or operator control (manual) activations available
- Smart system with electronic reset
- Compact and lightweight
- In compliance with CSA B621-14 and B622-14

PH5



- 1.75" to 5" sizes available
- PowerGuard (automatic) or operator control (manual) activations available, manual reset
- High temperature design for challenging thermal applications
- In compliance with CSA B621-14 and B622-14

PH1 Data Sheet



PH1 AIR INTAKE EMERGENCY SHUT-OFF VALVE

- Reliable and safe emergency shut down for diesel engines
- Simple pull cable activation method, with operator friendly manual reset
- Aluminum flap and housing for durable seal and low weight
- Designed for challenging thermal applications
- Wide range of sizes available
- Robust design; Tested to 18.6 g_{rms} vibration cycle
- Components corrosion tested to ASTM B117, 96hrs Salt Fog
- Corrosion resistant pull cable

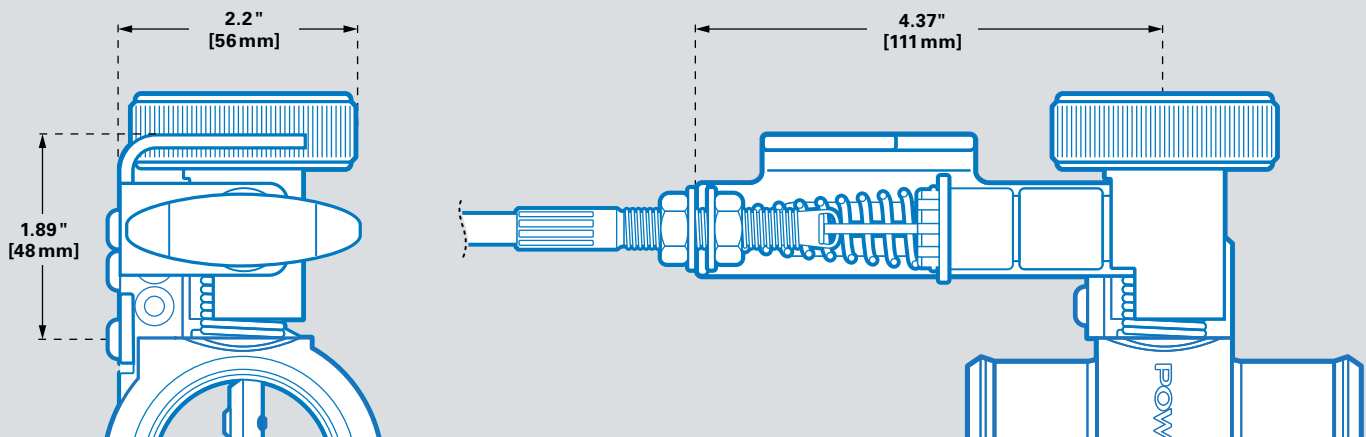
APPLICATIONS

- Lighting Units
- Bulk Haulers
- Drilling Rigs
- Refinery Processing
- Fueling Vehicles
- Pump Trucks
- Frac Trucks
- Grain Processing Plants
- Ambulances
- Tankers
- Cranes
- Vehicles
- Tow Vehicles
- Fire Trucks
- Work Boats
- Barges
- Lighting Trucks
- Power Generators
- Forklifts
- Welders
- Support Vehicles
- Vacuum Trucks
- Underground Equipment

PRODUCT DESCRIPTION

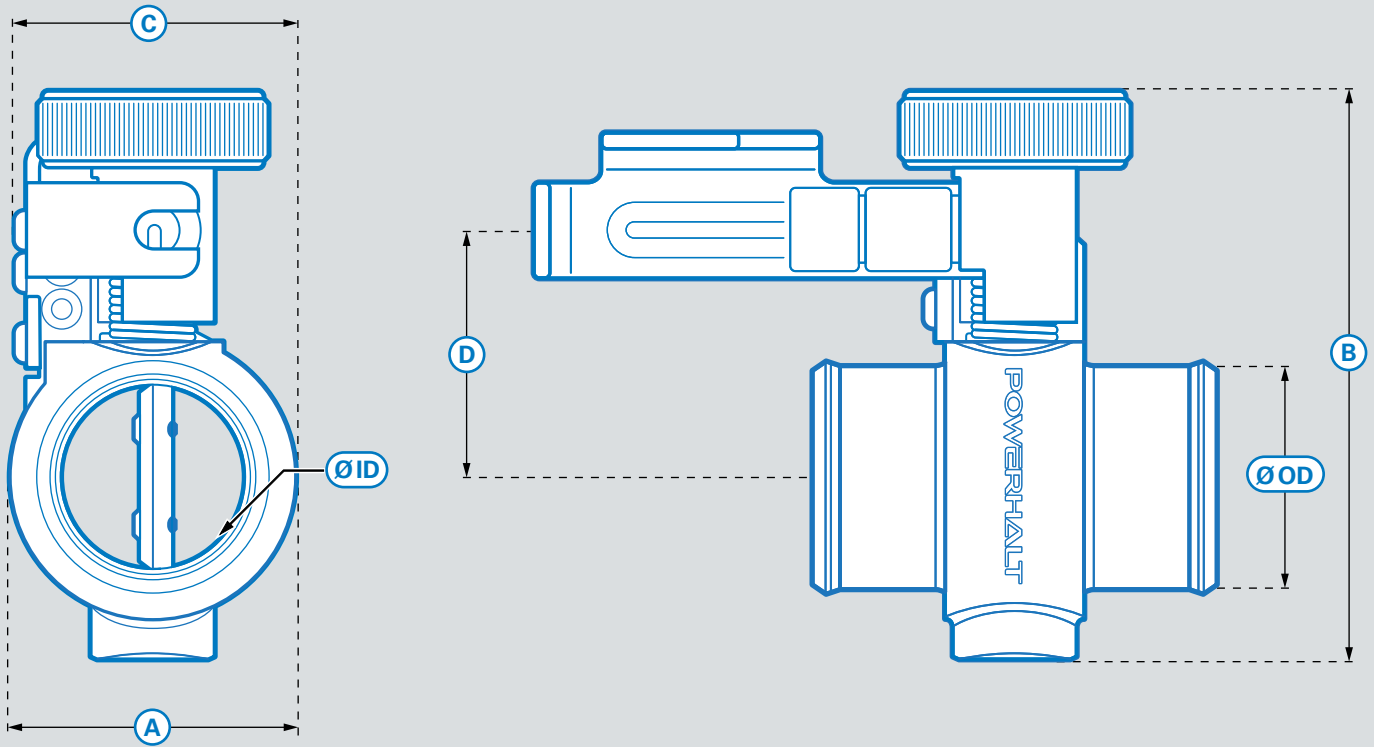
MAXIMUM INTAKE BOOST AIR PRESSURE	40 psig (gauge) [2.76 bar]
CONTINUOUS INTAKE AIR TEMPERATURE	-70°F to 350°F [-55°C to 175°C]
AMBIENT TEMPERATURE RANGE	-40°F to 248°F [-40°C to 120°C] (valve body)
RESTING POSITION	Valve open
ACTIVATED POSITION	Valve closed
STANDARD MOUNTING OPTIONS	Hose to hose
PIPE SIZES SUPPORTED	Ø1.75 in to Ø2.75 in [Ø44.5 mm to 70 mm]

PULL CABLE ACTIVATION



MINIMUM CABLE ACTIVATION PULL FORCE	11.2 lbf [50 N]
MINIMUM STROKE FOR ACTIVATION	.47" [12 mm]
ACTIVATION	Pull to shut valve

PHYSICAL CHARACTERISTICS



VALVE CORE DIMENSIONS

NOMINAL VALVE SIZE ØOD	BORE ØID	HOUSING (OD) A	HEIGHT B	WIDTH C	TRIGGER D	WEIGHT
1.75" [44.5 mm]	1.40" [35.5 mm]	2.56" [65 mm]	5.11" [129.8 mm]	2.44" [61.9 mm]	2.22" [57 mm]	3.3 lb [1.5 kg]
2.0" [51 mm]	1.65" [42 mm]	2.56" [65 mm]	5.11" [129.8 mm]	2.44" [61.9 mm]	2.22" [57 mm]	3.3 lb [1.5 kg]
2.25" [57 mm]	1.89" [48 mm]	2.56" [65 mm]	5.11" [129.8 mm]	2.44" [61.9 mm]	2.22" [57 mm]	3.1 lb [1.4 kg]
2.5" [64 mm]	2.17" [55 mm]	3.21" [81.5 mm]	5.35" [135.9 mm]	2.76" [70.1 mm]	2.34" [59.5 mm]	3.5 lb [1.6 kg]

PH1 VALVES



C50148

1.75"

OD Ø: 1.75" [44.5 mm]

ID Ø: 1.40" [35.5 mm]

A: 2.56" [65 mm]

B: 5.11" [129.8 mm]

C: 2.44" [61.9 mm]

D: 2.22" [57 mm]

Weight: 3.3 lb [1.5 kg]

NOTE: Valve only. Must add pull cable & mounting group



C50145

2.0"

OD Ø: 2.0" [51 mm]

ID Ø: 1.65" [42 mm]

A: 2.56" [65 mm]

B: 5.11" [129.8 mm]

C: 2.44" [61.9 mm]

D: 2.22" [57 mm]

Weight: 3.3 lb [1.5 kg]

NOTE: Valve only. Must add pull cable & mounting group



C50146

2.25"

OD Ø: 2.25" [57 mm]

ID Ø: 1.89" [48 mm]

A: 2.56" [65 mm]

B: 5.11" [129.8 mm]

C: 2.44" [61.9 mm]

D: 2.22" [57 mm]

Weight: 3.1 lb [1.4 kg]

NOTE: Valve only. Must add pull cable & mounting group



C50147

2.5"

OD Ø: 2.5" [64 mm]

ID Ø: 2.17" [55 mm]

A: 3.21" [81.5 mm]

B: 5.35" [135.9 mm]

C: 2.76" [70.1 mm]

D: 2.34" [59.5 mm]

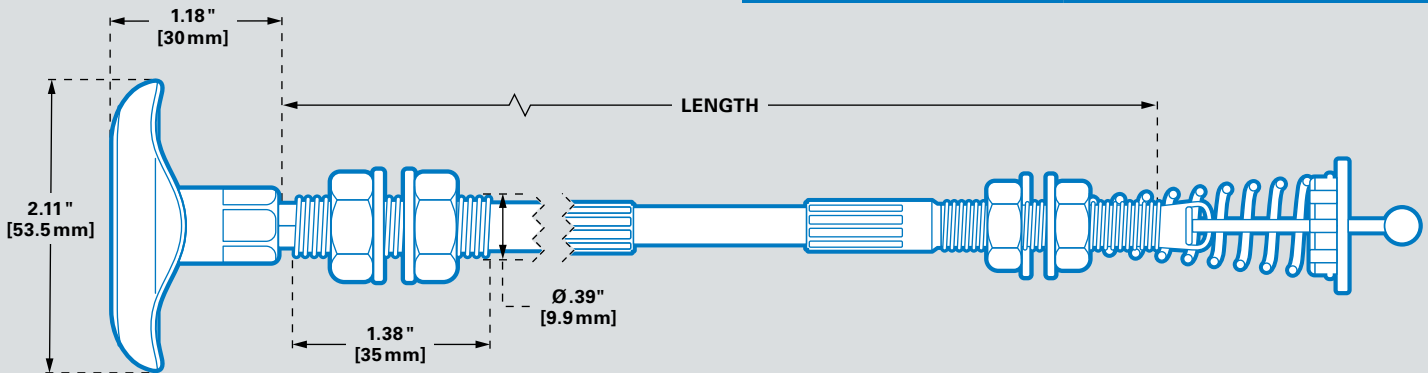
Weight: 3.5 lb [1.6 kg]

NOTE: Valve only. Must add pull cable & mounting group

PULL CABLES & FACEPLATE

- Stainless steel high quality pull cables are pre-assembled for easy installation and safety
- Braided cable, capable of a small bend radius for tight installation conditions
- Red T-handle with large nameplate for clear identification of emergency shut-down location

SPECIFICATIONS	
TOTAL DEGREES OF ALL BENDS	360° maximum
MINIMUM CABLE BEND RADIUS	4" [102 mm]
DEFAULT POSITION	Handle retracted
CABLE WEIGHT (REFERENCE)	0.64 lb [0.29 kg] for 6' [1829 mm] Length
THROUGH-HOLE SIZE	7/16" [11 mm]
AMBIENT TEMPERATURE RANGE	-40°F to 185°F [-40°C to 85°C]



**C3817
FACEPLATE**
Height: 4.25" [108 mm]
Width: 4.25" [108 mm]



**C50018
PULL CABLE**
Length: 2' [610 mm]



**C50022
PULL CABLE**
Length: 4' [1220 mm]



**C50026
PULL CABLE**
Length: 6' [1829 mm]



**C50030
PULL CABLE**
Length: 8' [2438 mm]



**C50035
PULL CABLE**
Length: 10' [3048 mm]

MOUNTING KITS



- The mounting kit comes with the appropriate mounting group to include 2 hoses and 4 clamps, ensuring a successful installation into your system
 - Adapters and piping are also available as separate options
- For special application requirements, please contact your PowerHalt sales representative**

For information on Mounting Groups (Hose, Clamps CAC Pipe) see COMPONENT SECTION page 61

PH 1

PH 2

PH 3

PH 5

COMPONENTS

How to use the PH1 Custom Order Chart:

- 1 Choose a: **VALVE MODEL** + **VALVE SIZE** + **PULL CABLE** + **MOUNTING GROUP**
- 2 Place order using PH1 part numbers . **Example PH1 Valve Order:** C50148 C50018 C50117
- 3 Choose any other custom valve components. See Component Section.

PH1 POWERHALT SHUT-OFF VALVES CUSTOM ORDER CHART

VALVE MODEL	PH1	PART #	CONTENTS
VALVE SIZE <i>(OUTSIDE DIMENSION)</i>		C50148	1.75" Valve
		C50145	2.0" Valve
		C50146	2.25" Valve
		C50147	2.5" Valve
PULL CABLE		C50018	2 ft
		C50022	4 ft
		C50026	6 ft
		C50030	8 ft
		C50035	10 ft
MOUNTING GROUP		C50117	1.75"
		C50118	2.0"
		C50119	2.25"
		C50116	2.5"

PH 1

PH 2

PH 3

PH 5

COMPONENTS



PH2 AIR INTAKE EMERGENCY SHUT-OFF VALVE

- Reliable and safe emergency shut down for diesel engines
- Multiple activation methods with operator friendly manual reset
- Optional smart controller with low power consumption
- Enclosed drive system is debris and corrosion resistant
- Highly durable O-ring material providing zero leakage when shut
- Designed for a wide range of temperatures
- Robust design; Tested to MIL-STD-810G vibration and 10,000 activations
- Corrosion tested to ASTM B117, 96 hours salt fog
- Wide range of sizes available
- In compliance with CSA B621-14 and B622-14

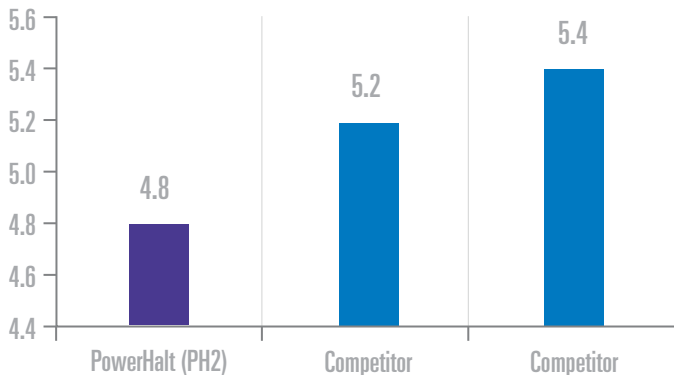
PRODUCT DESCRIPTION	
MAXIMUM INTAKE BOOST AIR PRESSURE	40 psig [2.76 bar] (gauge)
CONTINUOUS INTAKE AIR TEMPERATURE	-67°F to +392°F [-55°C to +200°C] (depending on seal selection)
AMBIENT TEMPERATURE RANGE	-40°F to +248°F [-40°C to +120°C] (depending on actuator)
VALVE OPERATION	Energize to close
STANDARD MOUNTING OPTIONS	Hoses and clamps NOTE: 5.5" [139.7 mm] nominal valve size comes with M6x1x8 mounting holes for optional additional support
PIPE SIZES SUPPORTED	Ø2.5" to Ø5.5" [Ø64 mm to Ø140 mm]

SEAL SELECTIONS	
MATERIAL	CONTINUOUS INTAKE AIR TEMPERATURE
FLUOROSILICONE	-70°F to +350°F [-56°C to +175°C]
VITON	-4°F to +392°F [-20°C to +200°C]

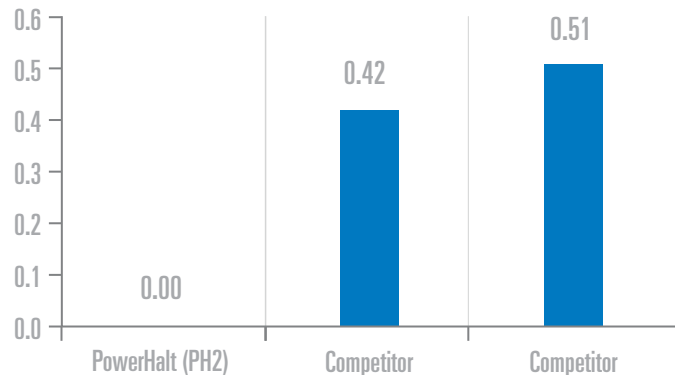
APPLICATIONS

- Lighting Units
- Bulk Haulers
- Drilling Rigs
- Refinery Processing
- Fueling Vehicles
- Pump Trucks
- Frack Trucks
- Grain Processing Plants
- Ambulances
- Tankers
- Cranes
- Vehicles
- Tow Vehicles
- Fire Trucks
- Work Boats
- Barges
- Lighting Trucks
- Power Generators
- Forklifts
- Welders
- Support Vehicles
- Vacuum Trucks
- Underground Equipment

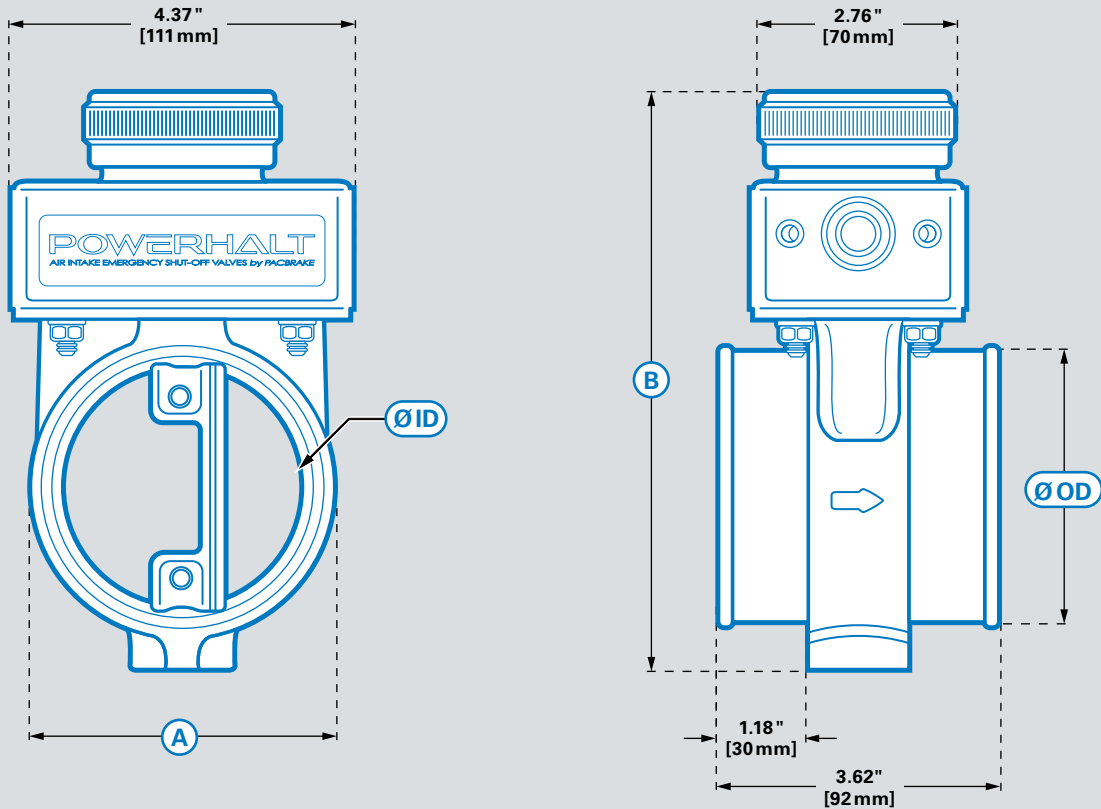
TIME TO SHUT-DOWN THE ENGINE (SEC)



LEAKAGE RATE (CLOSED VALVE)



PHYSICAL CHARACTERISTICS



VALVE CORE DIMENSIONS

NOMINAL VALVE SIZE ØOD	BORE ØID	WIDTH A	HEIGHT B	WEIGHT
2.8" [71.0 mm]	2.28" [58 mm]	3.19" [81 mm]	6.94" [176.3 mm]	3.25 lb [1.46 kg]
3.0" [76.2 mm]	2.48" [63 mm]	3.2" [81.5 mm]	7.05" [179.3 mm]	3.26 lb [1.48 kg]
3.5" [89 mm]	3.09" [78.5 mm]	3.89" [99 mm]	7.44" [189.1 mm]	3.41 lb [1.55 kg]
4.0" [102 mm]	3.6" [91.5 mm]	4.41" [112 mm]	7.95" [202.1 mm]	3.61 lb [1.64 kg]
5.0" [127 mm]	4.59" [116.5 mm]	5.27" [134 mm]	8.94" [227 mm]	3.86 lb [1.75 kg]
5.5" [139.7 mm]	5.1" [126.5 mm]	5.9" [151 mm]	9.37" [238.1 mm]	4.32 lb [1.96 kg]

PH2 BASE VALVES *(Can only be ordered when ordering a single pull cable, see PH2 valve reference chart, page 40-41)*



2.8"
FVMQ*: C50007
VITON: TBA
Weight: 3.25 lb [1.46 kg]



3.0"
FVMQ*: C50067
VITON: TBA
Weight: 3.26 lb [1.48 kg]



3.5"
FVMQ*: C50008
VITON: C50162
Weight: 3.41 lb [1.55 kg]



4.0"
FVMQ*: C50097
VITON: TBA
Weight: 3.61 lb [1.64 kg]



5.0"
FVMQ*: C50010
VITON: C50078
Weight: 3.86 lb [1.75 kg]



5.5"
FVMQ*: C50241
VITON: TBA
Weight: 4.32 lb [1.96 kg]

*FVMQ - FLUOROSILICONE

PH 1

PH 2 PH 2

PH 3

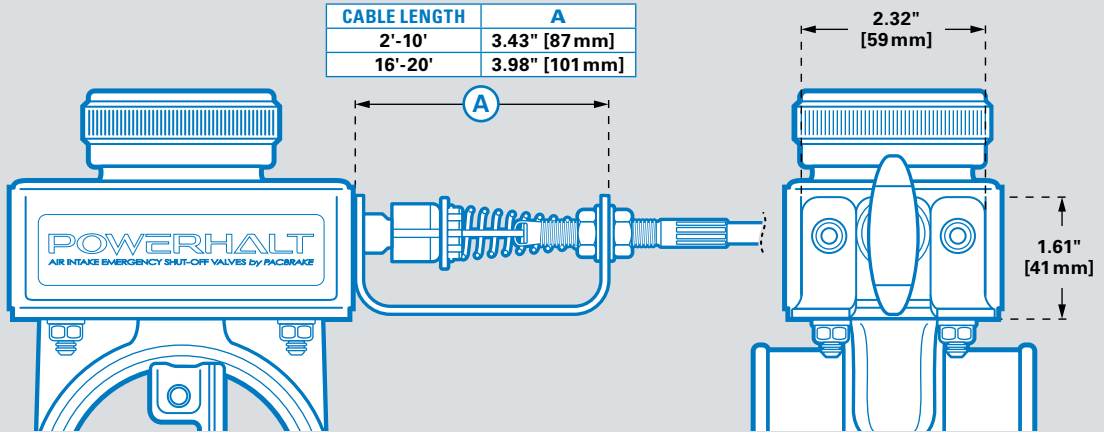
PH 5

COMPONENTS

WARRANTY

PH2 Activation Specifications

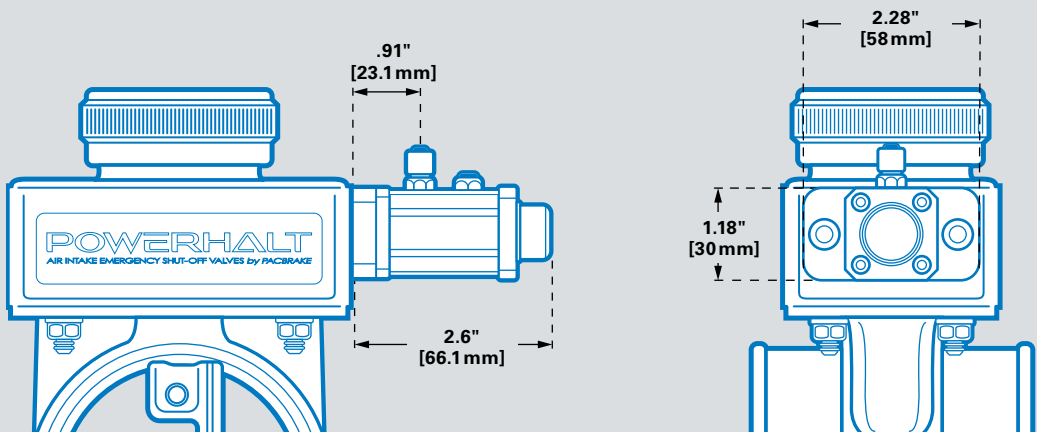
SINGLE PULL CABLE ACTIVATION



SPECIFICATIONS	
CABLE ACTIVATION PULL FORCE	20.2 lbf [90 N]
MINIMUM STROKE FOR ACTIVATION	.47" [12 mm]
ACTIVATION	Pull to close
ACTUATOR WEIGHT (CABLE WEIGHED SEPARATELY)	.53 lb [0.24 kg]

For information on PULL CABLES see page 35

PNEUMATIC ACTIVATION



SPECIFICATIONS	
MINIMUM AIR SUPPLY PRESSURE FOR ACTIVATION	60 psig [4.1 bar]
MAXIMUM AIR SUPPLY PRESSURE	145 psig [10 bar]
PNEUMATIC CYLINDER TEMPERATURE RANGE	-40°F to +158°F [-40°C to +70°C]
PNEUMATIC CONNECTION	Tube: 6 mm OD, 4 mm ID, nylon, soft nylon, or polyurethane
AIR SYSTEM CLEANLINESS	Contaminant particle size < .16 µm [40 µm]
ACTIVATION	Provide pressure to close valve
ACTUATOR WEIGHT	.44 lb [0.20 kg]

PH 1

PH 2

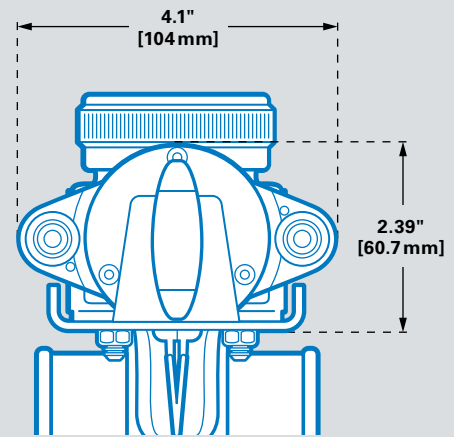
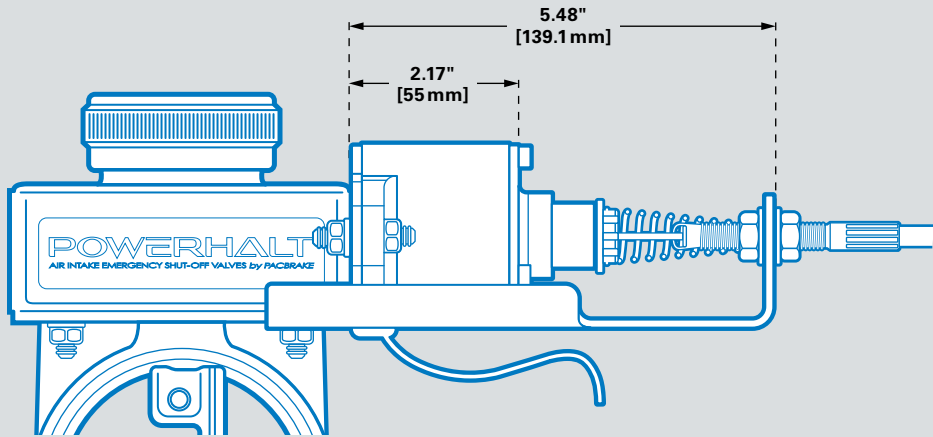
PH 3

PH 5

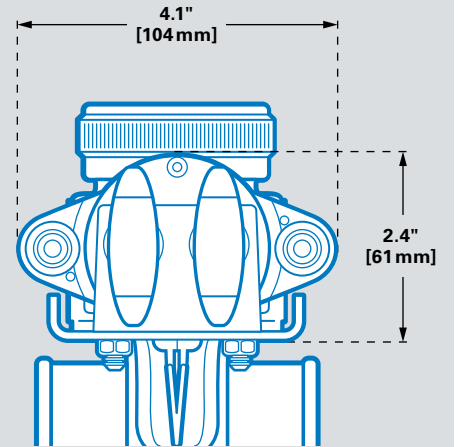
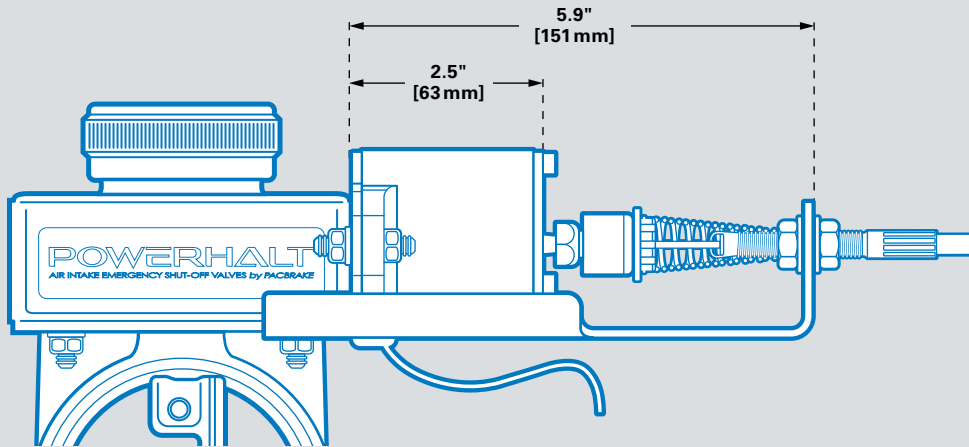
COMPONENTS

ELECTRIC PULL CABLE ACTIVATION*

12 / 24 VDC WITH SINGLE PULL CABLE



12 / 24 VDC WITH DUAL PULL CABLES (AVAILABLE WITH SOLENOID OPTION ONLY)



*Not available with 16' & 20' pull cables

PULL CABLE CONFIGURATION		
	SINGLE	DUAL
NUMBER OF CABLES	SINGLE	DUAL
CABLE ACTIVATION PULL FORCE	20.2 lbf [90 N]	22 lbf [98 N]
MINIMUM STROKE FOR ACTIVATION	.47" [12mm]	.47" [12mm]
ACTIVATION	Pull to close	Pull to close

ELECTRICAL CONFIGURATION		
	12 VDC	24 VDC
VOLTAGES	12 VDC	24 VDC
RESISTANCE	1.7 Ω +/- 10%	3.9 Ω +/- 10%
DUTY CYCLE	10 sec ON/90 sec OFF	10 sec ON/90 sec OFF
ACTIVATION	Power to close	Power to close
ELECTRICAL CONNECTOR	Metri-Pack, 280 Series Female, 2 Pin (Delphi #15300027)	Metri-Pack, 280 Series Female, 2 Pin (Delphi #15300027)
ACTUATOR WEIGHT (CABLE WEIGHED SEPARATELY)	2.1 lb [0.96 kg]	2.4 lb [1.08 kg]

For information on PULL CABLES see page 35

PH 1

PH 2 PH 2

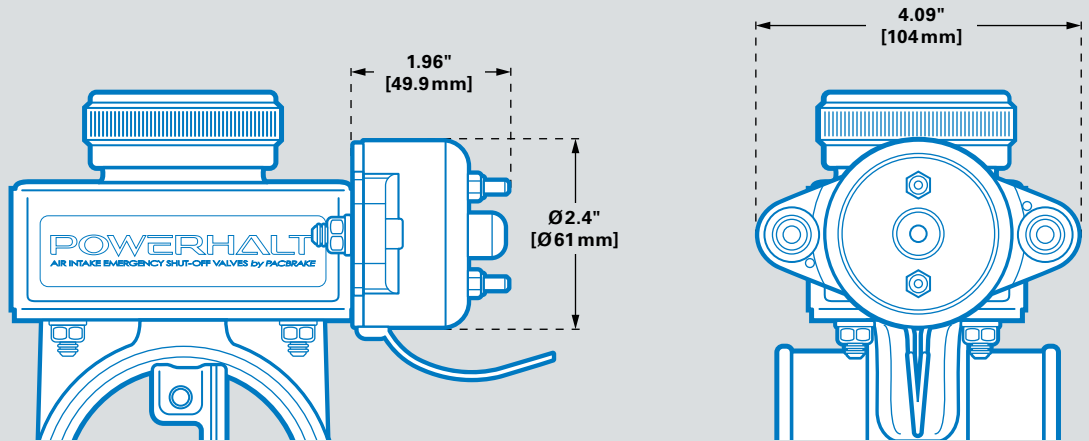
PH 3

PH 5

COMPONENTS

WARRANTY

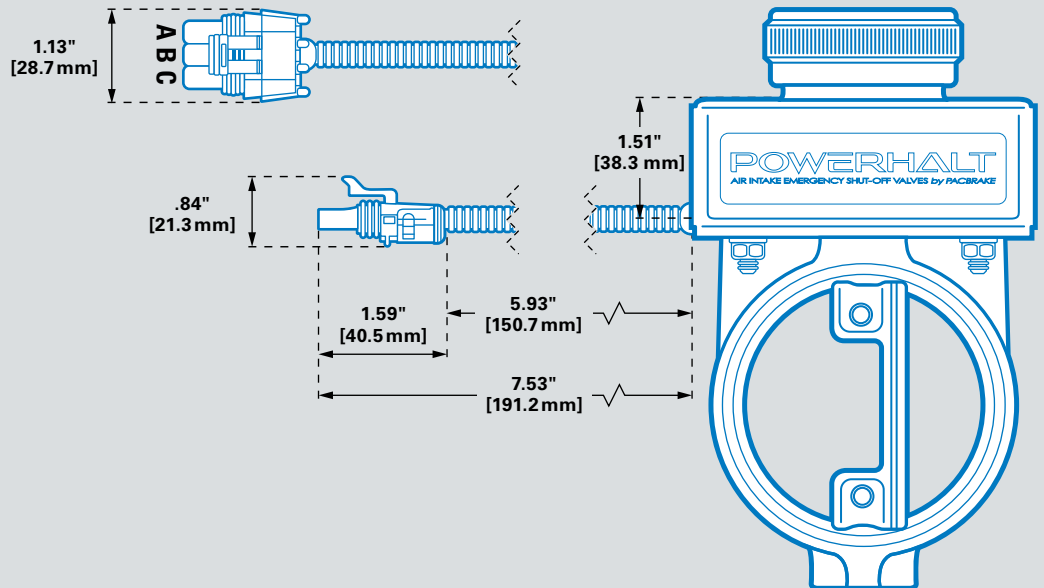
12 / 24 VDC ELECTRIC ACTIVATION



SPECIFICATIONS		
VOLTAGES	12 VDC	24 VDC
RESISTANCE	1.7 Ω +/- 10%	3.9 Ω +/- 10%
DUTY CYCLE	10 sec ON / 90 sec OFF	10 sec ON / 90 sec OFF
ACTIVATION	Power to close	Power to close
ELECTRICAL CONNECTOR	Metri-Pack, 280 Series Female, 2 Pin (Delphi # 15300027)	Metri-Pack, 280 Series Female, 2 Pin (Delphi # 15300027)
ACTUATOR WEIGHT	0.84 kg [1.9 lb]	0.84 kg [1.9 lb]

POSITION FEEDBACK OPTION (WITH MICRO SWITCH)

- Position feedback is available with the micro switch valve assemblies.
- Position feedback allows the integrator to control indicator lights, to provide the operator with position feed back.



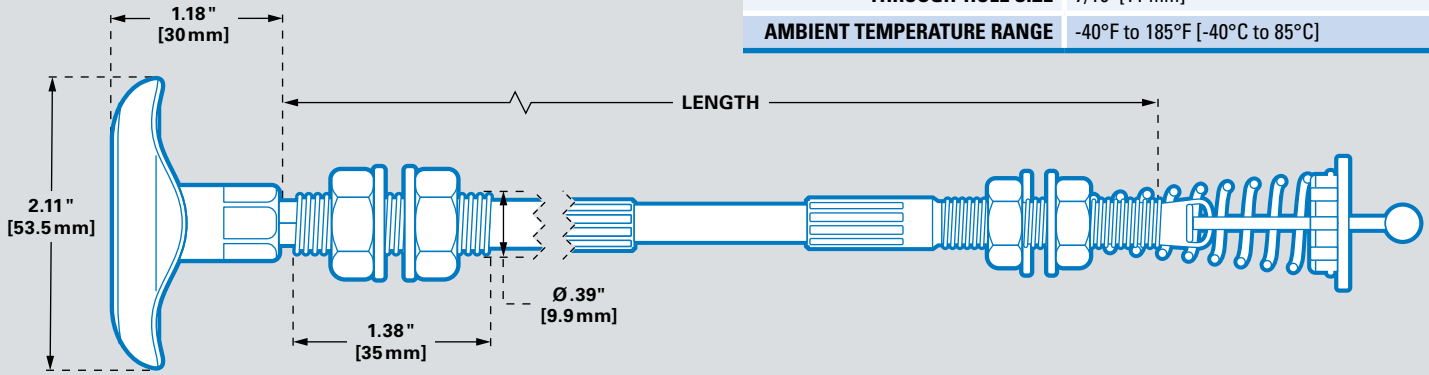
SPECIFICATIONS			
PINOUT	A = NO	B = COM	C = NC
CURRENT RATING	3.0 A @ 30 VDC		3.0 A @ 125 VAC
CONNECTOR	Weather-Pack, Female, 3 Pin (Delphi #12015793)		

For information on Mounting Groups (Hose, Clamps CAC Pipe) see COMPONENT SECTION page 61-64

PULL CABLES & FACEPLATE

- Stainless steel high quality pull cables are pre-assembled for easy installation and safety
- Braided cable, capable of a small bend radius for tight installation conditions
- Red T-handle with large nameplate for clear identification of emergency shut-down location

SPECIFICATIONS	
TOTAL DEGREES OF ALL BENDS	360° maximum
MINIMUM CABLE BEND RADIUS	4" [102 mm]
DEFAULT POSITION	Handle retracted
CABLE WEIGHT (REFERENCE)	0.64 lb [0.29 kg] for 6' [1829 mm] Length
THROUGH-HOLE SIZE	7/16" [11 mm]
AMBIENT TEMPERATURE RANGE	-40°F to 185°F [-40°C to 85°C]



**C3817
FACEPLATE**
Height: 4.25" [108 mm]
Width: 4.25" [108 mm]



**C50018
PULL CABLE**
Length: 2' [610 mm]



**C50022
PULL CABLE**
Length: 4' [1220 mm]



**C50026
PULL CABLE**
Length: 6' [1829 mm]



**C50030
PULL CABLE**
Length: 8' [2438 mm]



**C50035
PULL CABLE**
Length: 10' [3048 mm]



**C50149*
PULL CABLE**
Length: 16' [4877 mm]
Must also purchase
C50161 Cable Mounting
Group



**C50160*
PULL CABLE**
Length: 20' [6096 mm]
Must also purchase
C50161 Cable Mounting
Group

*Only available for single pull cable valves



POWERHALT
AIR INTAKE EMERGENCY SHUT-OFF VALVES by PACBRAKE

PowerHalt – Air Intake Emergency Shut-Off Valves by Pacbrake will starve the engine of air: safely and effectively shutting it down, protecting your crew & equipment.



INDUSTRY LEADING
SAFETY SOLUTIONS

PH2 Specific Components for Automatic Activation

POWERGUARD AUTOMATIC CONTROLLER

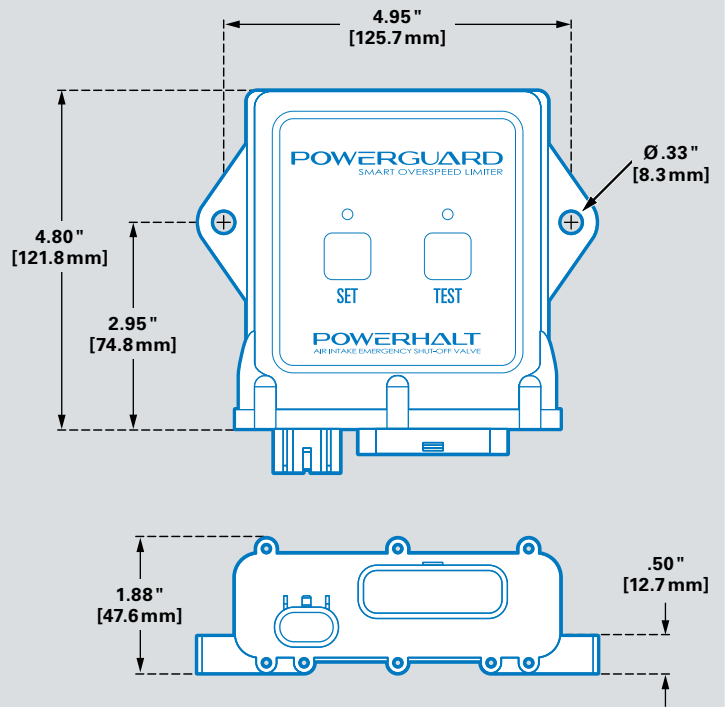
PowerGuard Automatic Control monitors engine speed through a gear tooth sensor mounted to the bell housing using an existing auxiliary port or by the drilling and tapping of a new port. The controller has a programmable trip speed – when the programmed trip speed is exceeded, emergency engine shutdown will occur automatically. Emergency shutdown can be activated at any time through a manual override switch.

- Automatically activates when programmed trip speed is exceeded

AUTOMATIC SPECIFICATIONS	
CONTROLLER HOUSING	SAE J1455
MATERIAL COMPLIANCE	-40°F to +185°F [-40°C to 85°C]
CONTROLLER VOLTAGE	12/24 VDC (10.8 to 28 VDC)
POWER CONSUMPTION (IDLE)	30 mA max continuous, nominal



C20568
CONTROLLER



CRANK POSITION SENSOR T JUMPER



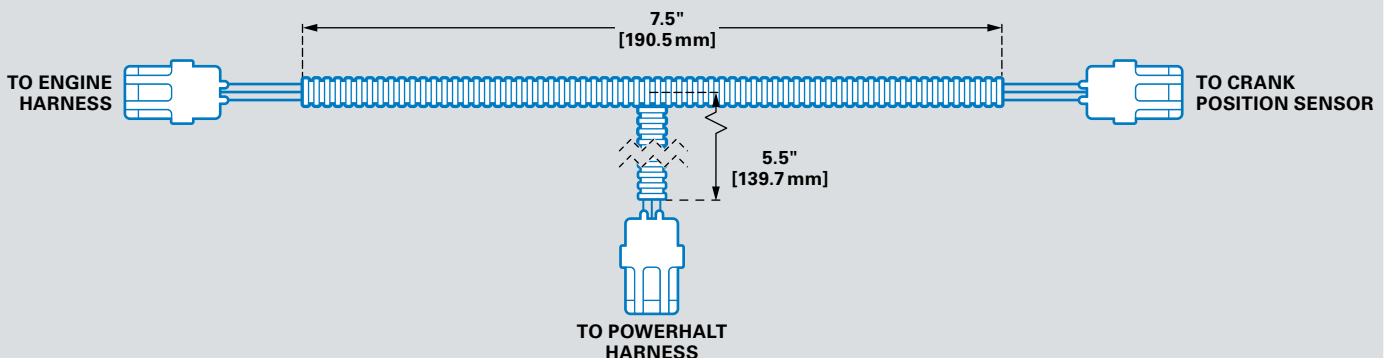
Optional T jumper harness for reading OEM Crank Position Sensor signal. Compatible with C20535 and C20544 harnesses.

C20577
CRANK POSITION SENSOR T JUMPER

APPLICATION: Cummins ISB, ISC, ISL

NOTE: Crank Position Sensor MUST supply 0-5 VDC Square Wave

SPECIFICATIONS	
TEMPERATURE RATING (CONTINUOUS)	-40°F to +221°F [-40°C to +105°C]
FLAMMABILITY RATING	FT2
ROHS COMPLIANT	Yes
WIRING	SAE J1128, Tinned Copper Conductor
ENGINE HARNESS CONNECTOR	Apex 2.8 series (54200315)
CRANK POSITION SENSOR CONNECTOR	Apex 2.8 series (54200315)



PH 1

PH 2

PH 3

PH 5

COMPONENTS

MAGNETIC PICK UP

- Measures RPM and sends a signal to the PowerGuard switch to shutdown the engine when engine runaway occurs
- Robust designs that are capable of surviving extreme working environments

INSTALLATION TORQUES

THREAD SIZE	INSTALLATION TORQUE
3/8 - 24 UNF	44 ± 4 in-lbf [5.0 ± 0.5 N•m]
5/8 - 18 UNF	18 ± 2 ft-lbf [24.4 ± 2.7 N•m]
3/4 - 16 UNF	60 ± 2 ft-lbf [81.3 ± 2.7 N•m]

VARIABLE RELUCTANCE SENSOR SPECS

MANUFACTURER	Eaton Fuller
MANUFACTURER PART #	4307352
CONNECTOR	Deutsch DT Series, Part # DT06-2S-E003

HALL EFFECT SENSOR SPECIFICATIONS

TEMPERATURE RANGE	-40°F to +221°F [-40°C to 105°C]
SIGNAL OUTPUT	0 to 5 VDC TTL
CONNECTOR	Weather-Pack, Male, 3 Pin (Delphi # 12010717)



C50137
MAG PICK UP ADAPTER
INTERNAL THREAD: 3/8 - 24 UNF
EXTERNAL THREAD: 3/4 - 16 UNF



NOTE: If you have either of the flywheels with the "X" you require C50137 adapter and a C50095 Hall Effect sensor



C50032
MAG PICK UP HALL EFFECT SENSOR
LENGTH: 2" [50.8 mm]
THREAD: 3/8 - 24 UNF



C50033
MAG PICK UP HALL EFFECT SENSOR
LENGTH: 2" [50.8 mm]
THREAD: 5/8 - 18 UNF



C50034
MAG PICK UP HALL EFFECT SENSOR
LENGTH: 2.5" [63.5 mm]
THREAD: 3/4 - 16 UNF



C50095
MAG PICK UP HALL EFFECT SENSOR
LENGTH: 3" [76.2 mm]
THREAD: 3/8 - 24 UNF



C50279
MAG PICK UP HALL EFFECT SENSOR
LENGTH: 2.5" [63.5 mm]
THREAD: 5/8 - 18 UNF

CRANK POSITION WIRE JUMPER



Optional single wire jumper harness for reading OEM Crank Position Sensor signal. Compatible with C20535 and C20544 harnesses.

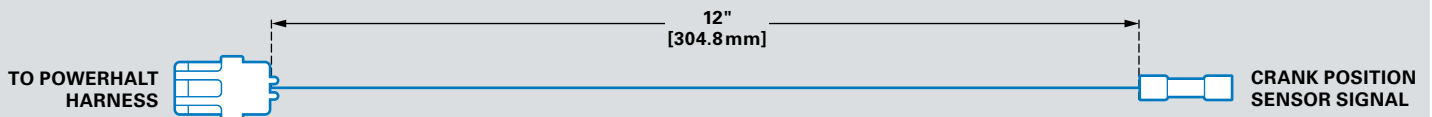
C20656
CRANK POSITION WIRE JUMPER

APPLICATION: Universal

NOTE: Crank Position Sensor MUST supply 0-5 VDC TTL Square Wave

SPECIFICATIONS

TEMPERATURE RATING (CONTINUOUS)	-40°F to +221°F [-40°C to +105°C]
FLAMMABILITY RATING	FT2
ROHS COMPLIANT	Yes
WIRING	SAE J1128, Tinned Copper Conductor

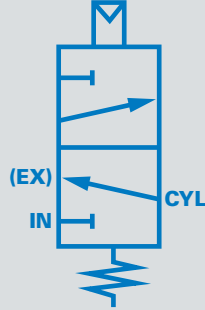


PH2 Specific Components for Automatic/Manual Activation

PNEUMATIC SOLENOID

Pacbrake's experience designing cost effective pneumatic solenoids with demanding requirements has equipped Pacbrake with the experience to integrate solenoid controls into any application. PH2 offers many pneumatic solenoid configurations for various requirements and applications.

- 'IN' port normally closed
- 'CYL' port normally open to exhaust (atmosphere)
- 18" [457 mm] long 18 AWG wire leads
- Anodized aluminum valve body
- Zinc chromate plated carbon steel solenoid body



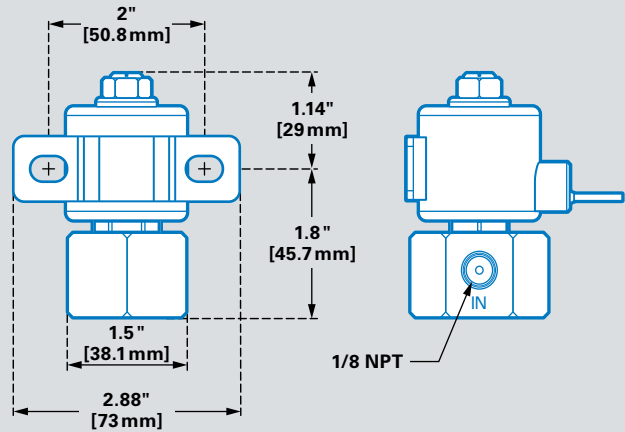
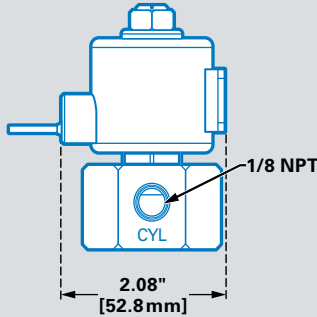
SPECIFICATIONS	
TEMPERATURE RATING	-40°F to +185°F [-40°C to +85°C]
AIR PRESSURE	10.34 bar (gauge) [150 psig] max operating pressure
NOMINAL VOLTAGE	12 VDC/24 VDC
CURRENT RATING	1.5 A max (12VDC) 0.8 A max (24 VDC)
PORT THREAD	IN - 1/8" (-2) NPT Male CYL - 1/8" (-2) NPT Male
CONNECTOR	Metri-Pack, 280 Series Female, 2 Pin (Delphi #15300027)



C20529
PNEUMATIC SOLENOID
Voltage Range: 12 VDC
Coil Resistance: 10 Ω



C20532
PNEUMATIC SOLENOID
Voltage Range: 24 VDC
Coil Resistance: 50 Ω

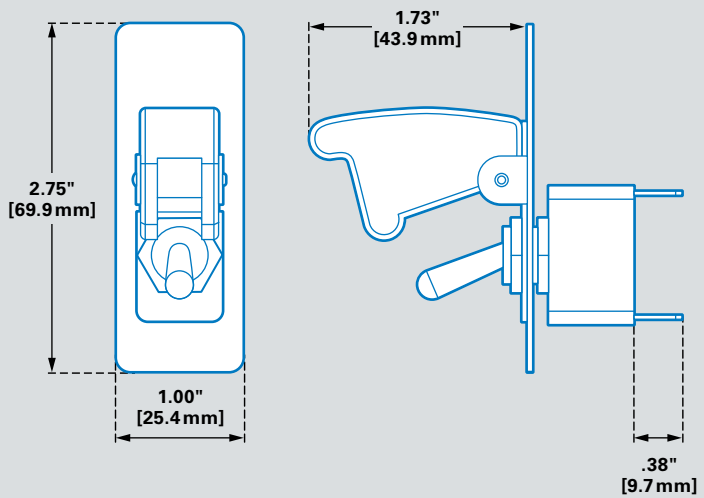


PH5 TOGGLE SWITCH KIT



- Military style toggle switch with safety guard to prevent false trip hazards
- Provides means to shut-off the engine or to test the valve
- Pull/Push button options available
- For manual and automatic activation

C50274
TOGGLE SWITCH KIT
Kit Includes: C3716 - Switch
C3717 - Switch Guard
C3816 - Switch Plate



SPECIFICATIONS	
THRU-HOLE DRILL SIZE	.5" [12.7 mm]
TEMPERATURE RATING	-13°F to +176°F [-25°C to +80°C]
RATED CURRENT	6.25 A @ 12 VDC
MOUNTING PANEL THICKNESS	.266" [6.75 mm] Maximum

WIRING HARNESS



Custom plug & play wiring harness with weather tight connectors.

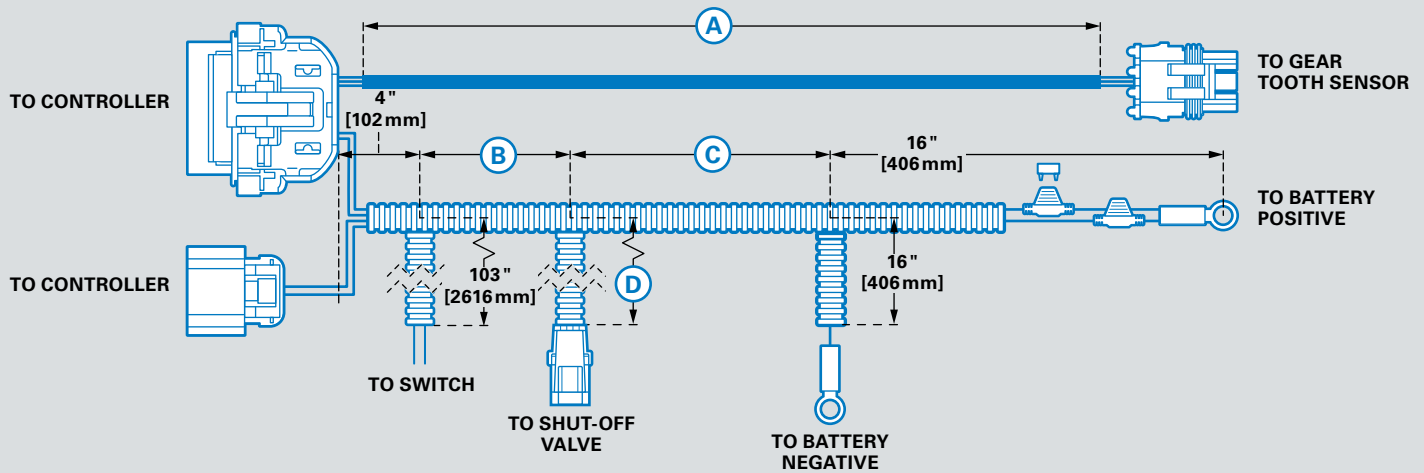
- Sealed connectors
- Environmentally resistant to fuel, oil and solvent compatible

SPECIFICATIONS	
TEMPERATURE RATING (CONTINUOUS)	-40°F to +221°F [-40°C to +105°C]
FLAMMABILITY RATING	FT2
ROHS COMPLIANT	Yes
WIRING	SAE J1128, Tinned Copper Conductor

WIRING HARNESS WITH MAGNETIC PICK-UP

PART #	A	B	C	D
C20528	108" [2743mm]	3.5" [89mm]	101" [2565mm]	99" [2515mm]

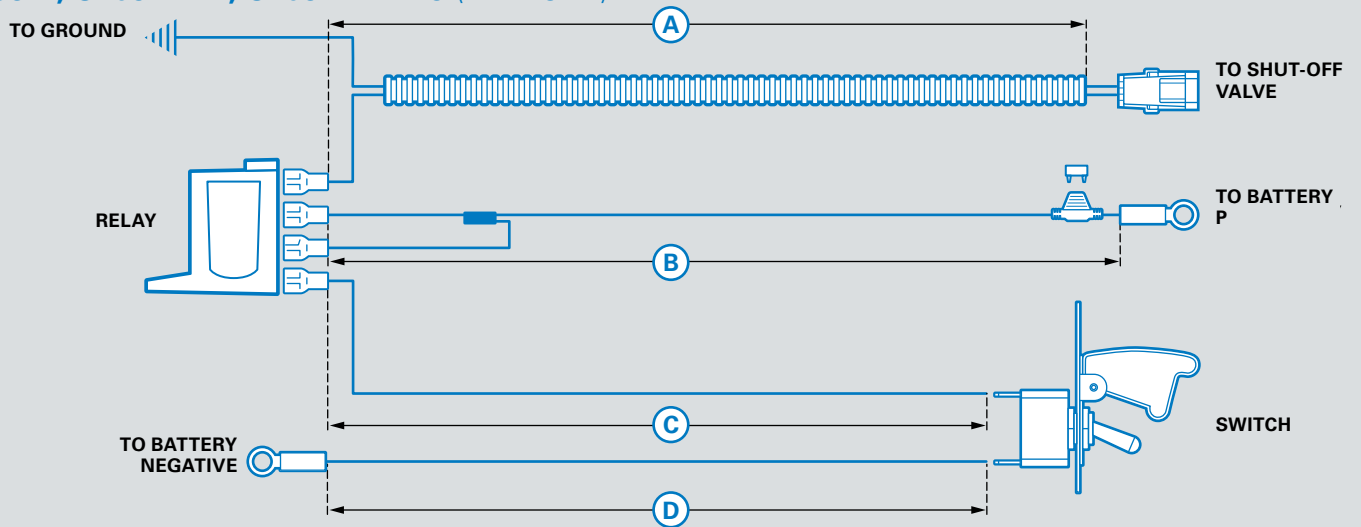
C20528 (AUTOMATIC)



WIRING HARNESS WITHOUT MAGNETIC PICK-UP

PART #	A	B	C	D
C20527 (12 VDC)	150" [3810mm]	53" [1346mm]	96" [2438mm]	84" [2134mm]
C20527-24 (24 VDC)	150" [3810mm]	53" [1346mm]	96" [2438mm]	84" [2134mm]
C20527-24-15 (24 VDC)	210" [5334mm]	53" [1346mm]	96" [2438mm]	210" [5334mm]

C20527, C20527-24, C20527-24-15 (MANUAL)



PH 1

PH 2 PH 2

PH 3

PH 5

COMPONENTS

**BASE VALVE BODY
(NO ACTUATION)**

**ELECTRIC
(12/24 VDC)**

**ELECTRIC
W/MICRO SWITCH**

PNEUMATIC

2.8"



SEAL	VALVE BODY	W/ MICRO SWITCH
FLUOROSILICONE	C50007	C50057 & C50057-L
VITON	TBA	TBA

SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50012	C50041
VITON	TBA	TBA

SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50068	C50073
VITON	TBA	TBA

SEAL	PNEUMATIC
FLUOROSILICONE	C50011
VITON	TBA

3.0"



SEAL	VALVE BODY	W/ MICRO SWITCH
FLUOROSILICONE	C50067	C50065
VITON	TBA	TBA

SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50066	C50081
VITON	TBA	TBA

SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50069	C50074
VITON	TBA	TBA

SEAL	PNEUMATIC
FLUOROSILICONE	C50099
VITON	TBA

3.5"



SEAL	VALVE BODY	W/ MICRO SWITCH
FLUOROSILICONE	C50008	C50058
VITON	C50162	TBA

SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50016	C50043
VITON	C50163	TBA

SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50070	C50075
VITON	TBA	TBA

SEAL	PNEUMATIC
FLUOROSILICONE	C50015
VITON	TBA

4.0"



SEAL	VALVE BODY	W/ MICRO SWITCH
FLUOROSILICONE	C50009	C50059
VITON	TBA	TBA

SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50020	C50045
VITON	TBA	TBA

SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50071	C50076
VITON	TBA	TBA

SEAL	PNEUMATIC
FLUOROSILICONE	C50019
VITON	TBA

5.0"



SEAL	VALVE BODY	W/ MICRO SWITCH
FLUOROSILICONE	C50010	C50060
VITON	C50078	TBA

SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50025	C50048
VITON	TBA	C50079

SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50072	C50077
VITON	TBA	TBA

SEAL	PNEUMATIC
FLUOROSILICONE	C50023
VITON	TBA

5.5"



SEAL	VALVE BODY	W/ MICRO SWITCH
FLUOROSILICONE	C50240 & C50240-L	C50241
VITON	TBA	TBA

SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50187	C50133
VITON	TBA	TBA

SEAL	12 VDC	24 VDC
FLUOROSILICONE	TBA	C50121
VITON	TBA	TBA

SEAL	PNEUMATIC
FLUOROSILICONE	TBA
VITON	TBA

SINGLE PULL CABLE

SINGLE PULL CABLE* ELECTRIC (12/24VDC)

*NOTE: MUST ALSO ORDER 2'-10" PULL CABLE

DUAL PULL CABLE* ELECTRIC (12/24VDC)

*NOTE: MUST ALSO ORDER TWO 2'-10" PULL CABLES

DUAL PULL CABLE* W/ MICRO SWITCH

**NOTE: MUST ALSO ORDER TWO 2'-10" PULL CABLES



2'-10" CABLE 16'-20" CABLE

- | | |
|---------------------|---------------------|
| ORDER ONE OF EACH: | ORDER ONE OF EACH: |
| • A BASE VALVE BODY | • A BASE VALVE BODY |
| • A PULL CABLE | • A PULL CABLE |
| • C50000 | • C50161 |



SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50013	C50134
VITON	TBA	TBA



SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50120	C50126
VITON	TBA	TBA



SEAL	12 VDC	24 VDC
FLUOROSILICONE	TBA	C50151 & C50152
VITON	TBA	TBA

2.8"



2'-10" CABLE 16'-20" CABLE

- | | |
|---------------------|---------------------|
| ORDER ONE OF EACH: | ORDER ONE OF EACH: |
| • A BASE VALVE BODY | • A BASE VALVE BODY |
| • A PULL CABLE | • A PULL CABLE |
| • C50000 | • C50161 |



SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50080	C50085
VITON	TBA	TBA



SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50122	C50127
VITON	TBA	TBA



SEAL	12 VDC	24 VDC
FLUOROSILICONE	TBA	TBA
VITON	TBA	TBA

3.0"



2'-10" CABLE 16'-20" CABLE

- | | |
|---------------------|---------------------|
| ORDER ONE OF EACH: | ORDER ONE OF EACH: |
| • A BASE VALVE BODY | • A BASE VALVE BODY |
| • A PULL CABLE | • A PULL CABLE |
| • C50000 | • C50161 |



SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50017	C50044
VITON	TBA	TBA



SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50123	C50128
VITON	TBA	TBA



SEAL	12 VDC	24 VDC
FLUOROSILICONE	TBA	TBA
VITON	TBA	TBA

3.5"



2'-10" CABLE 16'-20" CABLE

- | | |
|---------------------|---------------------|
| ORDER ONE OF EACH: | ORDER ONE OF EACH: |
| • A BASE VALVE BODY | • A BASE VALVE BODY |
| • A PULL CABLE | • A PULL CABLE |
| • C50000 | • C50161 |



SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50021	C50046
VITON	TBA	TBA



SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50124	C50129
VITON	TBA	TBA



SEAL	12 VDC	24 VDC
FLUOROSILICONE	TBA	TBA
VITON	TBA	TBA

4.0"



2'-10" CABLE 16'-20" CABLE

- | | |
|---------------------|---------------------|
| ORDER ONE OF EACH: | ORDER ONE OF EACH: |
| • A BASE VALVE BODY | • A BASE VALVE BODY |
| • A PULL CABLE | • A PULL CABLE |
| • C50000 | • C50161 |



SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50024	C50047
VITON	TBA	TBA



SEAL	12 VDC	24 VDC
FLUOROSILICONE	C50125	C50130
VITON	TBA	TBA



SEAL	12 VDC	24 VDC
FLUOROSILICONE	TBA	TBA
VITON	TBA	TBA

5.0"



2'-10" CABLE 16'-20" CABLE

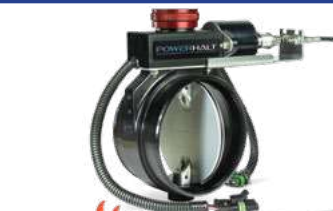
- | | |
|---------------------|---------------------|
| ORDER ONE OF EACH: | ORDER ONE OF EACH: |
| • A BASE VALVE BODY | • A BASE VALVE BODY |
| • A PULL CABLE | • A PULL CABLE |
| • C50000 | • C50161 |



SEAL	12 VDC	24 VDC
FLUOROSILICONE	TBA	C50251 & C50251-L
VITON	TBA	TBA



SEAL	12 VDC	24 VDC
FLUOROSILICONE	TBA	TBA
VITON	TBA	TBA



SEAL	12 VDC	24 VDC
FLUOROSILICONE	TBA	TBA
VITON	TBA	TBA

5.5"

How to use the PH2 Custom Order Chart:

- 1 Choose a: **VALVE MODEL** + **VALVE SIZE** + **SEAL** + **ACTUATION OPTION** + **CONTROL OPTION** + **MOUNTING GROUP**
- 2 Place order using PH2 VALVE ORDER CODE. Example PH2 Code: 28 S1 P1 T1 C50101

PH2 POWERHALT SHUT-OFF VALVES CUSTOM ORDER CHART

VALVE MODEL	PH2		
VALVE SIZE <i>(OUTSIDE DIMENSION)</i>	28	2.8"	
	30	3.0"	
	35	3.5"	
	40	4.0"	
	50	5.0"	
SEAL	S1	Fluorosilicone (-70°F to +350°F / -56°C to +175°C)	
ACTUATION OPTIONS	P1	Pneumatic (12V 3-Way Solenoid + Pneumatic Cylinder) Manually open valve to run and solenoid energized + air to cylinder to shut valve	
	P2	Pneumatic (24V 3-Way Solenoid + Pneumatic Cylinder) Manually open valve to run and solenoid energized + air to cylinder to shut valve	
	C1	Pull Cable (with T-Handle) Manually open valve to run and t-handle cable pulled to shut valve	
	E1	Electric (12V Solenoid) Manually open valve to run and solenoid energized to shut valve	
	E2	Electric (24V Solenoid) Manually open valve to run and solenoid energized to shut valve	
	M1	Electric + Pull Cable (12V Solenoid) Manually open valve to run and solenoid energized or cable pulled to shut valve <i>*MUST PURCHASE THE PACBRAKE PULL CABLE SEPARATELY (see Component Section)</i>	
	M2	Electric + Pull Cable (24V Solenoid) Manually open valve to run and solenoid energized or cable pulled to shut valve <i>*MUST PURCHASE THE PACBRAKE PULL CABLE SEPARATELY (see Component Section)</i>	
	R1	Electric + Dual Pull Cable (12V Solenoid) Manually open valve to run and solenoid energized or cable pulled to shut valve <i>*MUST PURCHASE TWO PACBRAKE PULL CABLES SEPARATELY (see Component Section)</i>	
R2	Electric + Dual Pull Cable (24V Solenoid) Manually open valve to run and solenoid energized or cable pulled to shut valve <i>*MUST PURCHASE TWO PACBRAKE PULL CABLES SEPARATELY (see Component Section)</i>		
CONTROL OPTIONS	T1	Manual (Toggle Switch with Cover)	
	A1	Automatic (Controller with Harness) <i>**MUST PURCHASE A MAGNETIC PICK-UP SEPARATELY (see Component Section)</i>	
MOUNTING GROUPS	There are many mounting groups available depending on the application, see the COMPONENT SECTION, page 61-64.		



PH3 AIR INTAKE EMERGENCY SHUT-OFF VALVE

Pacbrake PowerHalt 3 Emergency Air Intake Shut-Off Valve is an electronically controlled emergency engine shut down system which forces engine shut down by blocking an engine's air intake path. It is available in an automatic engine speed sensing model where shutdown occurs if engine speed exceeds a pre-set speed (or by manual override). Alternatively, a manual activation only configuration is available where an operator will activate emergency engine shut-down. The valves electronically return to open position after emergency engine shutdown, all while providing feedback to the operator that the valve is held closed via in-cab/panel lights.

- Reliable and safe emergency shut down for diesel engines
- Operator friendly fully automatic operation with manual override (automatic kits only)
- In compliance with CSA B621-14 and B622-14
- Operator controlled manual activation kit available
- Enclosed drive system is debris and corrosion resistant
- Aluminum flap and housing for durable seal
- High temperature design for challenging thermal applications
- Corrosion tested to ASTM B117 – 96 hours Salt Fog
- Robust design – tested to 18.6 g_{rms} vibration and 100k+ cycles fatigue
- Low power consumption with smart control
- Supports multiple trip input sources
- Capable of supporting 2 different programmable trip speeds

APPLICATIONS

- Lighting Units
- Bulk Haulers
- Drilling Rigs
- Refinery Processing
- Fueling Vehicles
- Pump Trucks
- Frac Trucks
- Grain Processing Plants
- Ambulances
- Tankers
- Cranes
- Vehicles
- Tow Vehicles
- Fire Trucks
- Work Boats
- Barges
- Lighting Trucks
- Power Generators
- Forklifts
- Welders
- Support Vehicles
- Vacuum Trucks
- Underground Equipment

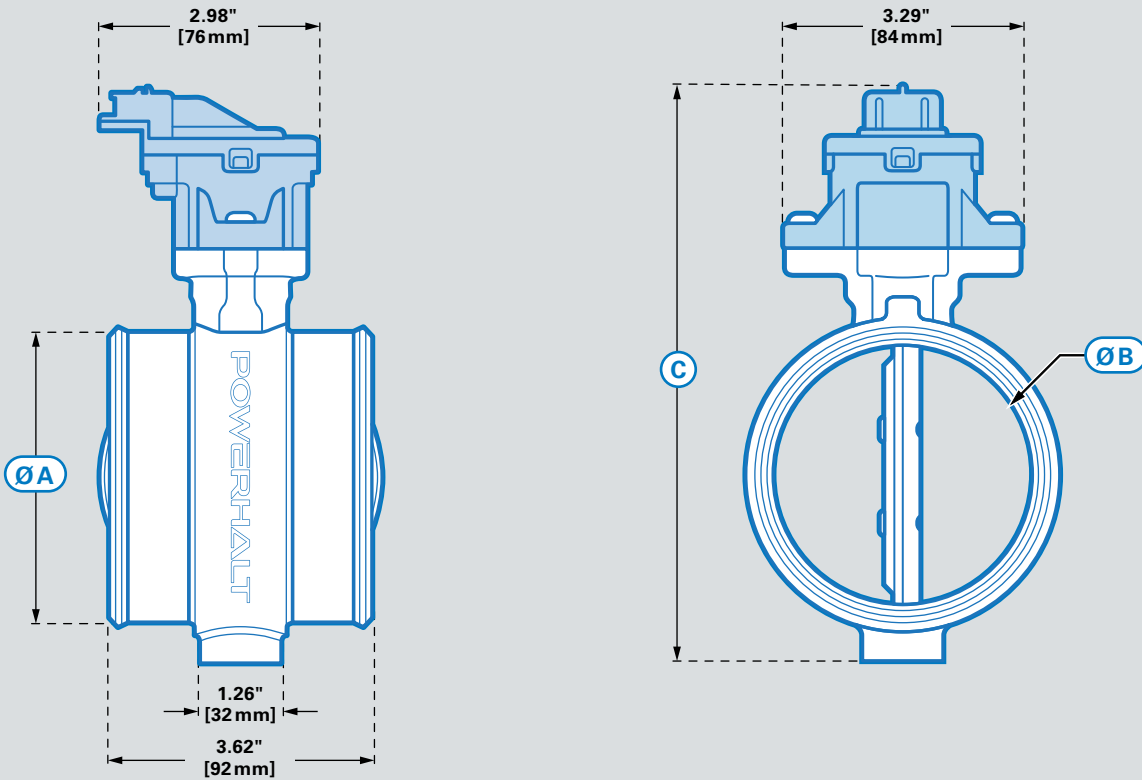
PRODUCT DESCRIPTION

MAXIMUM INTAKE BOOST AIR PRESSURE*	50 psi [3.45 bar]
CONTINUOUS INTAKE AIR TEMPERATURE	-70°F to 350°F [-56°C to +175°C]
AMBIENT TEMPERATURE RANGE	-40°F to 248°F [-40°C to +120°C]
RESTING POSITION	Valve open
ACTIVATED POSITION	Valve closed
STANDARD MOUNTING FLANGES	Hose to Hose
PIPE SIZES SUPPORTED	Ø 1.75" to Ø 4.5" [Ø 44.5 mm to Ø 114 mm]

VALVE CORE DIMENSIONS

HOSE BORE DIAMETER ØA	VALVE BORE DIAMETER ØB	HEIGHT C	WEIGHT
1.75" [44.5 mm]	1.40" [35.5 mm]	5.87" [149 mm]	1.7 lb [0.75 kg]
2.0" [51 mm]	1.65" [42 mm]	5.87" [149 mm]	1.6 lb [0.73 kg]
2.25" [57 mm]	1.89" [48 mm]	5.87" [149 mm]	1.56 lb [0.71 kg]
2.5" [64 mm]	2.17" [55 mm]	6.69" [170 mm]	2.0 lb [0.90 kg]
2.75" [70 mm]	2.40" [61 mm]	6.69" [170 mm]	1.9 lb [0.87 kg]
3.0" [76 mm]	2.64" [67 mm]	6.69" [170 mm]	1.8 lb [0.84 kg]
3.5" [89 mm]	3.15" [80 mm]	7.87" [200 mm]	2.2 lb [1.0 kg]
4.0" [102 mm]	3.66" [93 mm]	7.87" [200 mm]	2.4 lb [1.1 kg]

PHYSICAL CHARACTERISTICS



PH3 VALVES



C50087
1.75"
A Ø: 1.75" [44.5 mm]
B Ø: 1.40" [35.5 mm]
C: 5.87" [149 mm]
Weight: 1.7 lb [0.75 kg]



C50088
2.0"
A Ø: 2.0" [51 mm]
B Ø: 1.65" [42 mm]
C: 5.87" [149 mm]
Weight: 1.6 lb [0.73 kg]



C50089
2.25"
A Ø: 2.25" [57 mm]
B Ø: 1.89" [48 mm]
C: 5.87" [149 mm]
Weight: 1.56 lb [0.71 kg]



C50097
2.5"
A Ø: 2.5" [64 mm]
B Ø: 2.17" [55 mm]
C: 6.69" [170 mm]
Weight: 2.0 lb [0.90 kg]



C50096
2.75"
A Ø: 2.75" [70 mm]
B Ø: 2.4" [61 mm]
C: 6.69" [170 mm]
Weight: 1.9 lb [0.87 kg]



C50090
3.0"
A Ø: 3.0" [76 mm]
B Ø: 2.64" [67 mm]
C: 6.69" [170 mm]
Weight: 1.8 lb [0.84 kg]



C50098
3.5"
A Ø: 3.5" [89 mm]
B Ø: 3.15" [80 mm]
C: 7.87" [200 mm]
Weight: 2.4 lb [1.1 kg]



C50086
4.0"
A Ø: 4.0" [102 mm]
B Ø: 3.66" [93 mm]
C: 7.87" [200 mm]
Weight: 2.2 lb [1.0 kg]

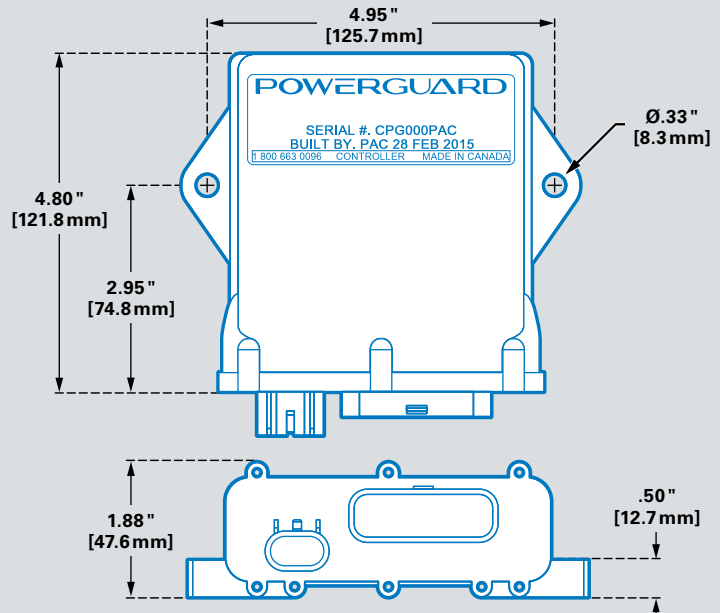
For information on Mounting Groups (Hose, Clamps CAC Pipe) see COMPONENT SECTION page 61-64

POWERGUARD CONTROLLER

AUTOMATIC CONTROLLER

PowerGuard Automatic Control monitors engine speed through a gear tooth sensor mounted to the transmission bell housing using an existing auxiliary port or by the drilling and tapping of a new port. The controller has a programmable trip speed – when the programmed trip speed is exceeded, emergency engine shutdown will occur automatically. Emergency shutdown can be activated at any time through a manual override button. All control and programming is completed using a membrane switch mounted in a vehicle's cab or on a control panel. An auxiliary input harness is available to expand systems to utilize external trip input signals or switches.

- Automatically activates when programmed trip speed is exceeded
- Manual override, programming and valve position feedback from cab/panel mounted membrane switch



C20545 (HALL EFFECT)
C20552 (VR & R-TERMINAL)
AUTOMATIC CONTROLLER
 Valve: PH3

AUTOMATIC SPECIFICATIONS	
CONTROLLER HOUSING MATERIAL COMPLIANCE	SAE J1455 -40°F to +185°F [-40°C to 85°C]
CONTROLLER VOLTAGE	12/24 VDC (10.8 to 28 VDC)
CONTROL METHOD	PID, PWM, H-Bridge
POWER CONSUMPTION (IDLE)	35 mA max continuous, nominal
POWER CONSUMPTION (VALVE ACTUATED)	6.5 A continuous, nominal


MAGNETIC PICK UP

- Measures RPM and sends a signal to the PowerGuard switch to shutdown the engine when engine runaway occurs
- Robust designs that are capable of surviving extreme working environments


VARIABLE RELUCTANCE SENSOR SPECS	
MANUFACTURER	Eaton Fuller
MANUFACTURER PART #	4307352
CONNECTOR	Deutsch DT Series, Part # DT06-2S-E003

INSTALLATION TORQUES	
THREAD SIZE	INSTALLATION TORQUE
3/8 - 24 UNF	44 ± 4 in-lbf [5.0 ± 0.5 N•m]
5/8 - 18 UNF	18 ± 2 ft-lbf [24.4 ± 2.7 N•m]
3/4 - 16 UNF	60 ± 2 ft-lbf [81.3 ± 2.7 N•m]


HALL EFFECT SENSOR SPECIFICATIONS	
TEMPERATURE RANGE	-40°F to +221°F [-40°C to 105°C]
SIGNAL OUTPUT	0 to 5 VDC TTL
CONNECTOR	Weather-Pack, Male, 3 Pin (Delphi # 12010717)




C50137
MAG PICK UP ADAPTER
 INTERNAL THREAD: 3/8 - 24 UNF
 EXTERNAL THREAD: 3/4 - 16 UNF




C50032
MAG PICK UP HALL EFFECT SENSOR
 LENGTH: 2" [50.8 mm]
 THREAD: 3/8 - 24 UNF




C50033
MAG PICK UP HALL EFFECT SENSOR
 LENGTH: 2" [50.8 mm]
 THREAD: 5/8 - 18 UNF




C50034
MAG PICK UP HALL EFFECT SENSOR
 LENGTH: 2.5" [63.5 mm]
 THREAD: 3/4 - 16 UNF



C50095
MAG PICK UP HALL EFFECT SENSOR
 LENGTH: 3" [76.2 mm]
 THREAD: 3/8 - 24 UNF



C50279
MAG PICK UP HALL EFFECT SENSOR
 LENGTH: 2.5" [63.5 mm]
 THREAD: 5/8 - 18 UNF



C50132
MAG PICK UP VARIABLE RELUCTANCE SENSOR
 MOUNTING: Push in style

NOTE: If you have either of the flywheels with the "X" you require C50137 adapter and a C50095 Hall Effect sensor

PH3 Specific Components for Automatic Activation

CRANK POSITION WIRE JUMPER



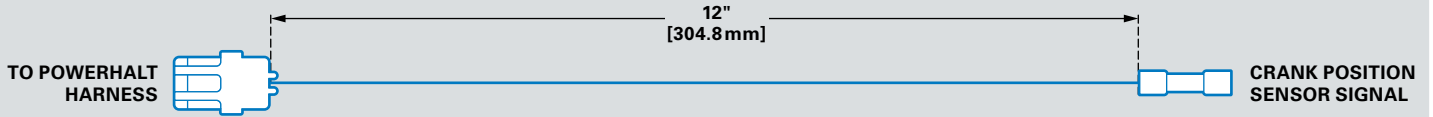
Optional single wire jumper harness for reading OEM Crank Position Sensor signal. Compatible with C20535 and C20544 harnesses.

C20656 CRANK POSITION WIRE JUMPER

APPLICATION: Universal

NOTE: Crank Position Sensor MUST supply 0-5 VDC TTL Square Wave

SPECIFICATIONS	
TEMPERATURE RATING (CONTINUOUS)	-40°F to +221°F [-40°C to +105°C]
FLAMMABILITY RATING	FT2
ROHS COMPLIANT	Yes
WIRING	SAE J1128, Tinned Copper Conductor



CRANK POSITION SENSOR T JUMPER



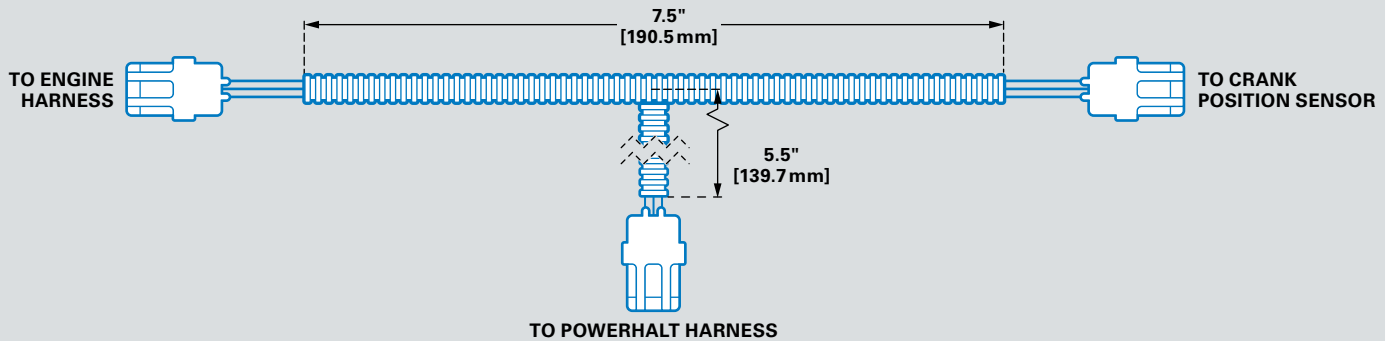
Optional T jumper harness for reading OEM Crank Position Sensor signal. Compatible with C20535 and C20544 harnesses.

C20577 CRANK POSITION SENSOR T JUMPER

APPLICATION: Cummins ISB, ISC, ISL

NOTE: Crank Position Sensor MUST supply 0-5 VDC Square Wave

SPECIFICATIONS	
TEMPERATURE RATING (CONTINUOUS)	-40°F to +221°F [-40°C to +105°C]
FLAMMABILITY RATING	FT2
ROHS COMPLIANT	Yes
WIRING	SAE J1128, Tinned Copper Conductor
ENGINE HARNESS CONNECTOR	Apex 2.8 series (54200315)
CRANK POSITION SENSOR CONNECTOR	Apex 2.8 series (54200315)



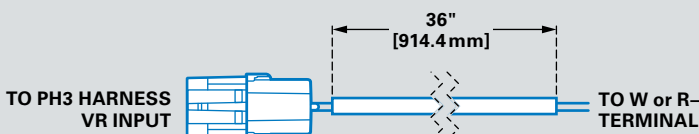
W OR R-TERMINAL

The PowerHalt PH3 R or W-Terminal kit is an addition to the PH3 system that utilizes a Variable Reluctance (VR) sensor to read engine speed to determine proper and safe shut down event. Alternative to a VR sensor is to measure on the R or W-Terminal on an automotive engine's alternator stator tap. The output is used as a tachometer signal with AC voltage waveform similar to that of a VR sensor. The benefit of using the alternator output reduces the need for an external sensor, as the installation process is greatly simplified.

SPECIFICATIONS	
TEMPERATURE RATING	-40°F to +221°F [-40°C to +105°C]
VOLTAGE RATING	60 VDC



C20592 W OR R-TERMINAL



PH 1

PH 2

PH 3

PH 5

COMPONENTS

WIRING HARNESS



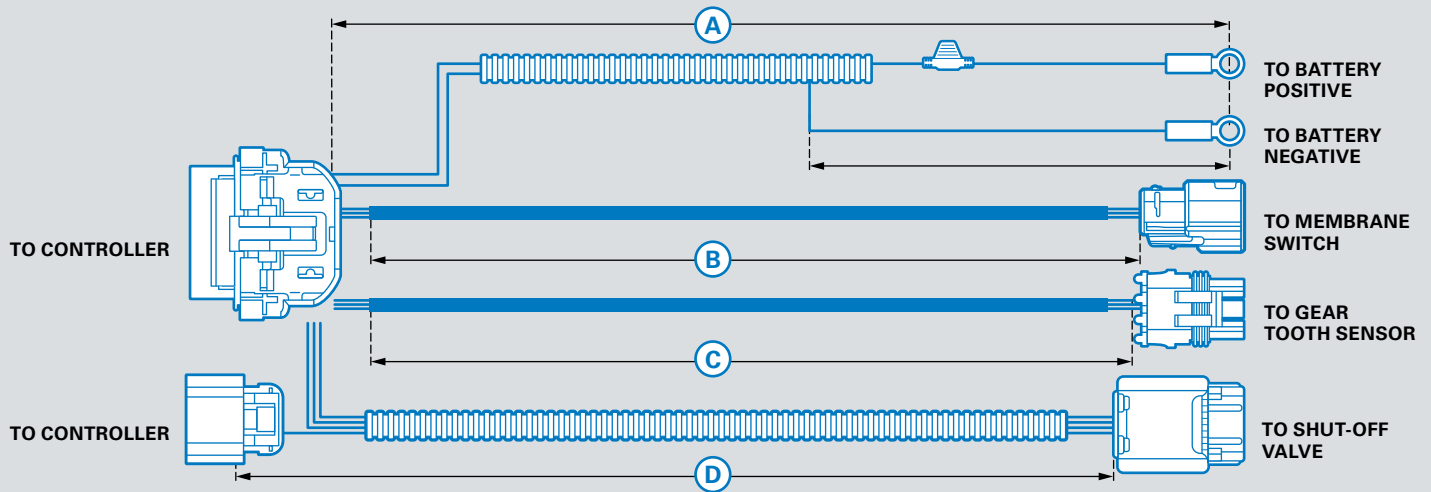
Custom plug & play wiring harness with weather tight connectors.

- Sealed connectors
- Environmentally resistant to fuel, oil and solvent

SPECIFICATIONS	
TEMPERATURE RATING (CONTINUOUS)	-40°F to +221°F [-40°C to +105°C]
FLAMMABILITY RATING	FT2
ROHS COMPLIANT	Yes
WIRING	SAE J1128, Tinned Copper Conductor

WIRING HARNESS WITH MAGNETIC PICK-UP

PART #	A	B	C	D	ENGINE RPM SPEED SENSOR
C20535	128" [3251 mm]	108" [2745 mm]	132" [3353 mm]	125" [3175 mm]	Hall Effect (3 Pins), Weather-Pack Connector
C20544	49" [1245 mm]	48" [1220 mm]	57" [1370 mm]	61" [1550 mm]	Hall Effect (3 Pins), Weather-Pack Connector
C20538	120" [3050 mm]	70" [1780 mm]	50" [1270 mm]	95" [2415 mm]	OEM Signal Input, Hall Effect
C20567	128" [3251 mm]	108" [2745 mm]	132" [3353 mm]	125" [3175 mm]	VR (2 Pins), Deutsch DT Connector
C20543	49" [1245 mm]	48" [1220 mm]	57" [1370 mm]	61" [1550 mm]	VR (2 Pins), T-Connection
C20534	128" [3251 mm]	108" [2745 mm]	108" [2745 mm]	105" [2670 mm]	VR (2 Pins), Weather-Pack Connector



PH3 Specific Components for Automatic/Manual Activation

TOGGLE SWITCH KIT



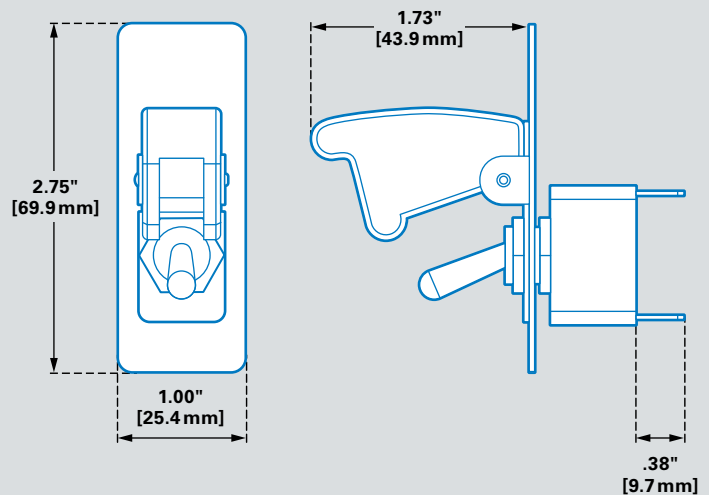
- Military style toggle switch with safety guard to prevent false trip hazards
- Provides means to shut-off the engine or to test the valve
- Pull/Push button options available
- For manual and automatic activation

C50274

TOGGLE SWITCH KIT

Kit Includes: C3716 - Switch
C3717 - Switch Guard
C3816 - Switch Plate

SPECIFICATIONS	
THRU-HOLE DRILL SIZE	.5" [12.7 mm]
TEMPERATURE RATING	-13°F to +176°F [-25°C to +80°C]
RATED CURRENT	6.25 A @ 12 VDC
MOUNTING PANEL THICKNESS	.266" [6.75 mm] Maximum



PH 1

PH 2

PH 3

PH 5

COMPONENTS

WARRANTY

PH3 Specific Components for Automatic/Manual Activation

MEMBRANE SWITCH



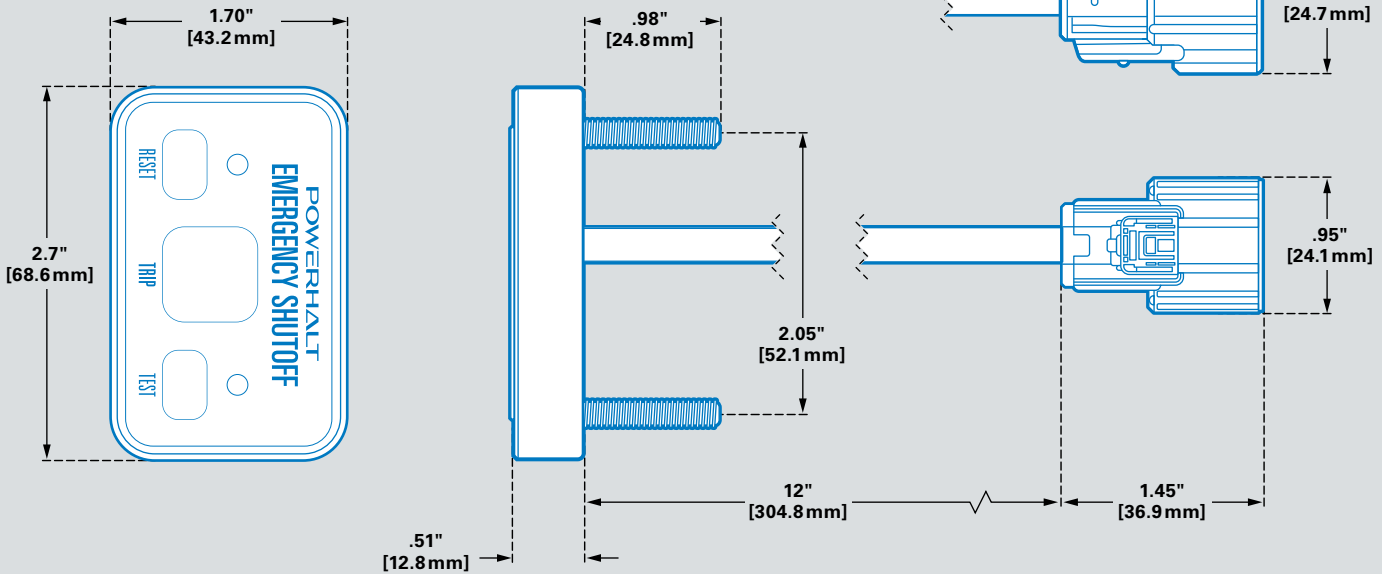
PowerHalt's PH3 membrane switch is a low profile membrane switch that has trip, test, reset and set-up functions with LED lights.

C20541
MEMBRANE SWITCH

SPECIFICATIONS	
ELECTRICAL CONNECTOR HOLE DRILL SIZE	1.125" [28.5 mm]
MOUNTING HOLE DRILL SIZE	.25" [6.4 mm]
TEMPERATURE RATING	-40°F to +185°F [-40°C to +85°C]
INSTALLATION TORQUE	20 ± 5 in-lbf [2.25 ± 0.5 N•m]

SWITCH FEATURES

- RESET** Used during the setup procedure. (Has a red LED indicator above the button)
Also used to reset valve to open position when in manual reset mode for compliance with CSA B621-14 and B622-14.
- TRIP** Used for a manual activation. (Manual override button)
- TEST** Used to test the automatic function and during the setup procedures. (Has a green LED indicator above the button)



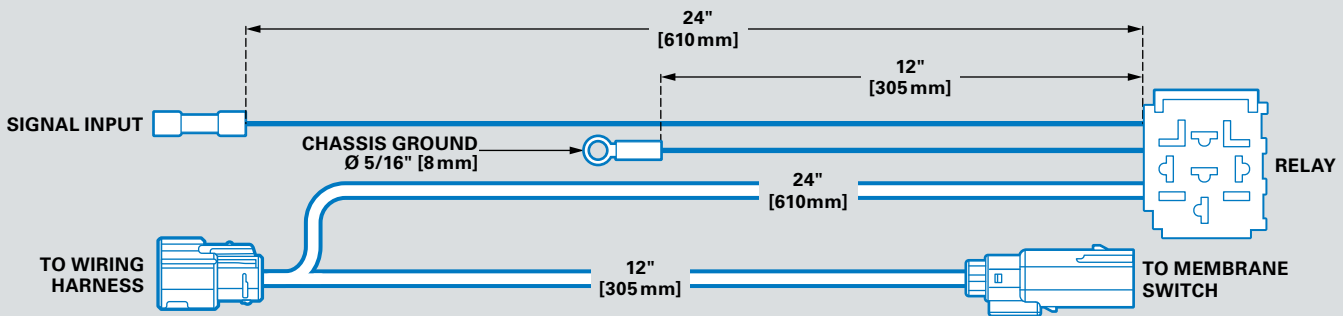
AUXILIARY TRIP INPUT HARNESS



- Expands the standard PowerGuard PH3 wiring harness (with membrane switch) to allow for an external trip signal (emergency shut down will be activated when 12 VDC or 24 VDC voltage is supplied)
- Integrates in-line with membrane switch and wiring harness connection

C50159 & C50159-24 (24VDC)
AUXILIARY TRIP INPUT HARNESS

SPECIFICATIONS	
SIGNAL VOLTAGE	12/24 VDC, nominal
CURRENT SOURCE/SINK REQUIREMENT	300 mA (12 V) or 480 mA (24 V)
SWITCHING RESPONSE TIME	50 ms
ENVIRONMENTAL RESISTANCE	Fuel, oil, and solvent compatible
FLAMMABILITY RATING	FT2
WIRING	SAE J1128, Tinned Copper Conductor



PH 1

PH 2

PH 3

PH 5

COMPONENTS

POWERGUARD CONTROLLER

MANUAL CONTROLLER

PowerGuard Manual Control will force emergency shutdown when an operator or external device activates an emergency trip switch. By default, the time that system will remain activated after trip is 30 seconds. A supplied light will illuminate when the valve is held closed to provide feedback to an operator that an engine may not yet be started.

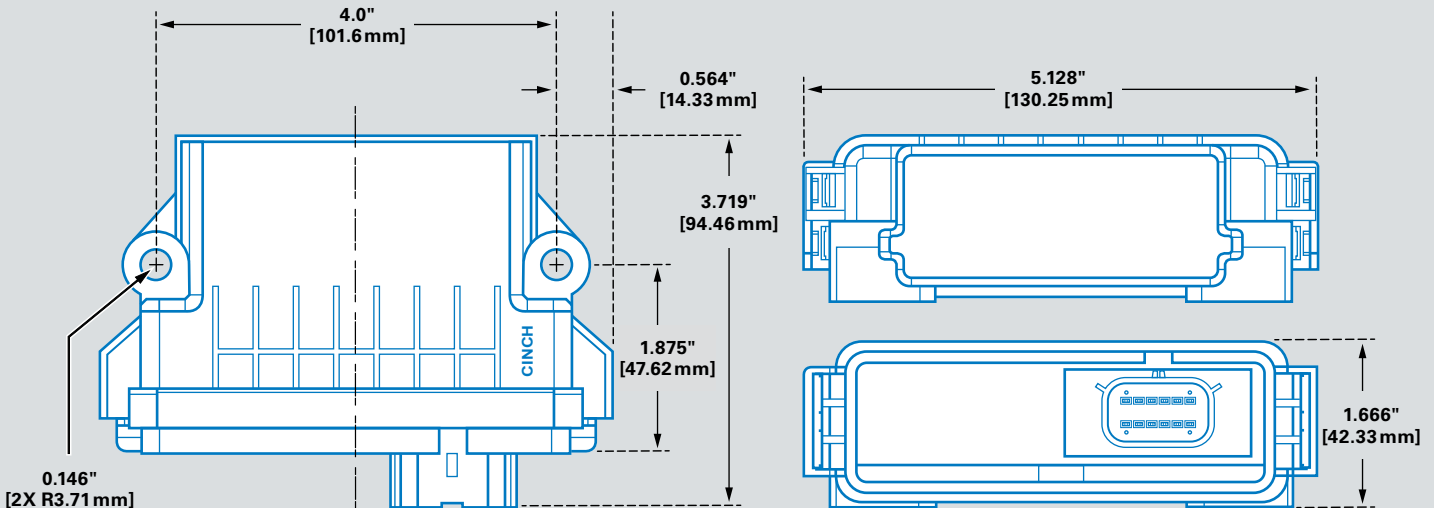
- Compact controller size ideal for tight overall integration and packaging
- Indicator light to display valve status

MANUAL SPECIFICATIONS	
CONTROLLER VOLTAGE	12 & 24 VDC, nominal (8 to 30 VDC)
SEAL RATING	IP 67 & IP 69K
VALVE ACTUATION DURATION	15 seconds
INSTALLATION TORQUE	10-12 in-lb [1.13-1.36 Nm]
CURRENT CONSUMPTION (IDLE/VALVE ACTUATED)	8 mA/6.5 A, nominal
RATED SERVICE TEMPERATURE	-40 °F to +185 °F [-40°C to +85°C]



C20644
MANUAL CONTROLLER
Activation: Manual

MANUAL CONTROLLER



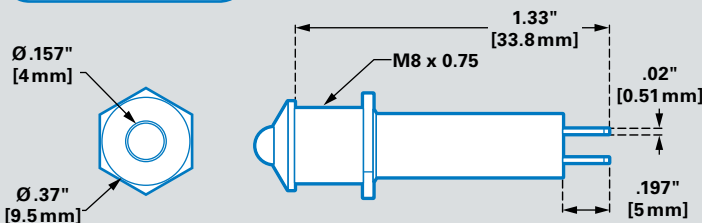
PANEL INDICATOR LIGHT (OPTIONAL)



Get instant notification on the status of your PowerHalt Valve with this LED panel indicator warning light for your dash.

C11313 & C11313-24 (24VDC)
PANEL INDICATOR LIGHT
APPLICATION: PH3 manual with toggle switch

SPECIFICATIONS	
THRU-HOLE DRILL SIZE	.315" [8 mm]
TEMPERATURE RATING	-40°F to +185°F [-40°C to +85°C]
SUPPLY VOLTAGE	12 VDC nominal 24 VDC nominal
CONNECTION	.11" x .02" [2.79 mm x 0.5 mm] quick connect terminals
MOUNTING PANEL THICKNESS	.266" [6.75 mm] maximum



PH 1

PH 2

PH 3

PH 5

COMPONENTS

WIRING HARNESS



Custom plug & play wiring harness with weather tight connectors.

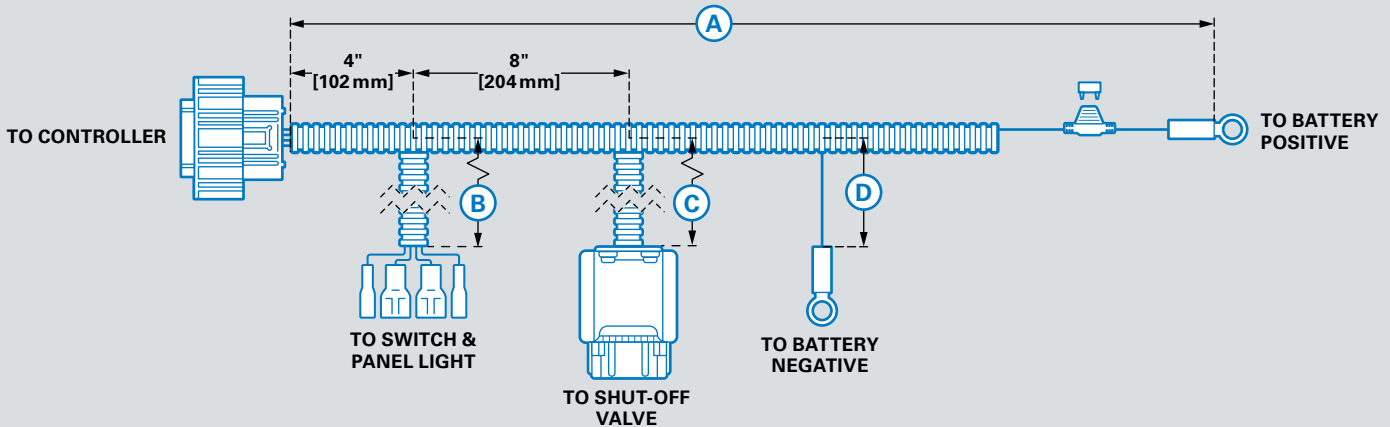
- Sealed connectors
- Environmentally resistant to fuel, oil and solvent

SPECIFICATIONS	
TEMPERATURE RATING (CONTINUOUS)	-40°F to +221°F [-40°C to +105°C]
FLAMMABILITY RATING	FT2
ROHS COMPLIANT	Yes
WIRING	SAE J1128, Tinned Copper Conductor

WIRING HARNESS & TOGGLE SWITCH (WITHOUT MAGNETIC PICK-UP)

PART #	A	B	C	D
C20674	60" [1525 mm]	56" [1422 mm]	48" [1219 mm]	20" [508 mm]
C20675	120" [3048 mm]	116" [2946 mm]	108" [2743 mm]	20" [508 mm]
C20676	180" [4572 mm]	176" [4470 mm]	168" [4267 mm]	20" [508 mm]

C20674, C20675 & C20676



POWERHALT
AIR INTAKE EMERGENCY SHUT-OFF VALVES by PACBRAKE

PowerHalt – Air Intake Emergency Shut-Off Valves by Pacbrake will starve the engine of air: safely and effectively shutting it down, protecting your crew & equipment.



INDUSTRY LEADING
SAFETY SOLUTIONS

How to use the PH3 Custom Order Chart:

- 1 Choose a: **VALVE MODEL** + **VALVE SIZE** + **CONTROL OPTION** + **MOUNTING GROUP** *
- 2 Place order using PH3 part numbers. **Example PH3 Valve Order:** C50087 C50094 C50117 *
- 3 Choose any other custom valve components. See Component Section.

PH3 POWERHALT SHUT-OFF VALVES CUSTOM ORDER CHART

VALVE MODEL	PH3	PART #	CONTENTS
VALVE SIZE (OUTSIDE DIMENSION)		C50087	1.75" Valve
		C50088	2.0" Valve
		C50089	2.25" Valve
		C50097	2.5" Valve
		C50096	2.75" Valve
		C50090	3.0" Valve
		C50098	3.5" Valve
		C50086	4.0" Valve
CONTROL OPTIONS**	AUTOMATIC + MAGNETIC SENSOR SEE PAGE 45 †	C50094	Automatic Controller Membrane Switch 5' long Harness
		C50093	Automatic Controller Membrane Switch 10' long Harness
	MANUAL	C50272	Manual Controller Toggle Switch 5' Harness
		C50273	Manual Controller Toggle Switch 10' Harness
MOUNTING GROUPS			There are many mounting groups available depending on the application, see the COMPONENT SECTION, page 61-64.

* AUTOMATIC CONTROL OPTIONS MUST ALSO ADD A MAGNETIC PICK-UP, SEE PAGE 45

** PICK THE CONTROL KIT OPTIONS BASED ON THE LENGTH OF HARNESS

† NOT FOR USE WITH VR SENSOR OR R-TERMINAL HARNESS. PLEASE CONTACT POWERHALT REPRESENTATIVE FOR MORE INFORMATION.

PH5 Data Sheet



PH5 AIR INTAKE EMERGENCY SHUT-OFF VALVE

Pacbrake PowerHalt 5 Air Intake Emergency Shut-Off Valve is an electronically controlled emergency engine shutdown system which forces engine shutdown by blocking an engine's air intake path. It is available in an automatic engine speed sensing model where shutdown occurs if engine speed exceeds a pre-set speed (or by manual override). Alternatively, a manual activation only configuration is available where an operator or external input will activate emergency engine shut-down.

- Reliable and safe emergency shut down for diesel engines
- Operator friendly automatic operation with manual reset and override
- Aluminum flap and housing for durable seal
- High temperature design for challenging thermal applications
- In compliance with CSA B621-14 and B622-14
- Corrosion tested to ASTM B117-96 hours Salt Fog
- Designed for 18.6 G_{RMS} vibration (7.7 G_{RMS} for 5" bore)
- Robust design – designed to pass 100k+ fatigue cycles, validated to pass 10k fatigue cycles
- IP67 rated valve enclosure

APPLICATIONS

- Lighting Units
- Bulk Haulers
- Drilling Rigs
- Refinery Processing
- Fueling Vehicles
- Pump Trucks
- Frac Trucks
- Grain Processing Plants
- Ambulances
- Tankers
- Cranes
- Vehicles
- Tow Vehicles
- Fire Trucks
- Work Boats
- Barges
- Lighting Trucks
- Power Generators
- Forklifts
- Welders
- Support Vehicles
- Vacuum Trucks
- Underground Equipment

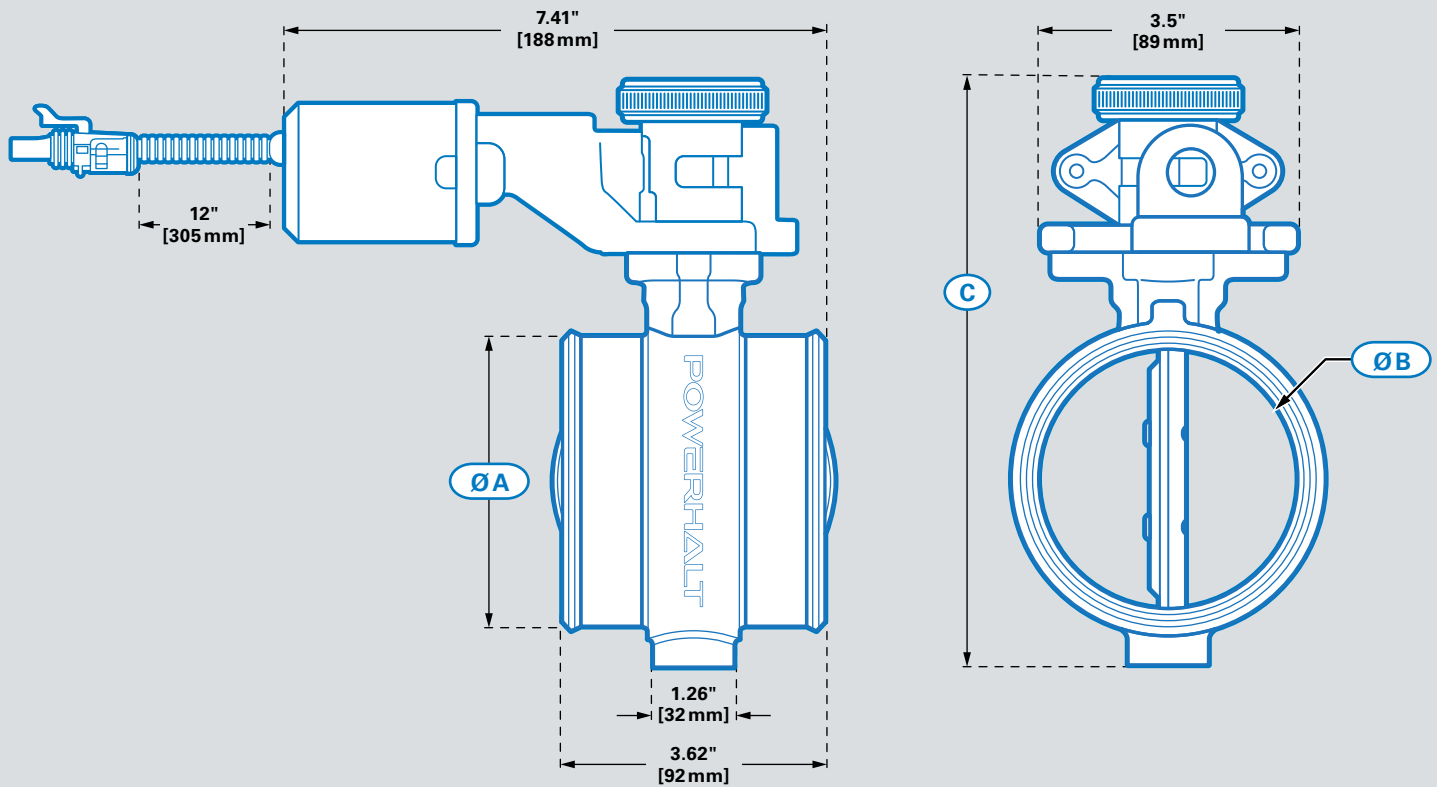
PRODUCT DESCRIPTION

MAXIMUM INTAKE BOOST AIR PRESSURE*	50 psi [3.45 bar]
CONTINUOUS INTAKE AIR TEMPERATURE	-40°F to 392°F [-55°C to +200°C]
AMBIENT TEMPERATURE RANGE	-40°F to 248°F [-40°C to +120°C]
RESTING POSITION	Valve open
ACTIVATED POSITION	Valve closed
STANDARD MOUNTING FLANGES	Hose to Hose
PIPE SIZES SUPPORTED	Ø 1.75" to Ø 5.5" [Ø 44.5 mm to Ø 140 mm]

VALVE CORE DIMENSIONS

HOSE BORE DIAMETER ØA	VALVE BORE DIAMETER ØB	HEIGHT C	WEIGHT
1.75" [44.5 mm]	1.40" [35.5 mm]	6.06" [154 mm]	3.3 lb [1.49 kg]
2.0" [51 mm]	1.65" [42 mm]	6.06" [154 mm]	3.2 lb [1.47 kg]
2.25" [57 mm]	1.89" [48 mm]	6.06" [154 mm]	3.2 lb [1.45 kg]
2.5" [64 mm]	2.17" [55 mm]	6.89" [175 mm]	3.6 lb [1.64 kg]
2.75" [70 mm]	2.40" [61 mm]	6.89" [175 mm]	3.6 lb [1.62 kg]
3.0" [76 mm]	2.64" [67 mm]	6.89" [175 mm]	3.5 lb [1.59 kg]
3.5" [89 mm]	3.15" [80 mm]	8.07" [205 mm]	4.1 lb [1.88 kg]
4.0" [102 mm]	3.66" [93 mm]	8.07" [205 mm]	3.9 lb [1.79 kg]
5.0" [127 mm]	4.65" [118 mm]	9.09" [231 mm]	4.8 lb [2.17 kg]

PHYSICAL CHARACTERISTICS



PH5 VALVES



C50175-12 (12 VDC)
C50175-24 (24 VDC)
1.75"
A Ø: 1.75" [44.5 mm]
B Ø: 1.40" [35.5 mm]
C: 6.06" [154 mm]
Weight: 3.3 lb [1.49 kg]



C50176-12 (12 VDC)
C50176-24 (24 VDC)
2.0"
A Ø: 2.0" [51 mm]
B Ø: 1.65" [42 mm]
C: 6.06" [154 mm]
Weight: 3.2 lb [1.47 kg]



C50177-12 (12 VDC)
C50177-24 (24 VDC)
2.25"
A Ø: 2.25" [57 mm]
B Ø: 1.89" [48 mm]
C: 6.06" [154 mm]
Weight: 3.2 lb [1.45 kg]



C50178-12 (12 VDC)
C50178-24 (24 VDC)
2.5"
A Ø: 2.5" [64 mm]
B Ø: 2.17" [55 mm]
C: 6.89" [175 mm]
Weight: 3.6 lb [1.64 kg]



C50179-12 (12 VDC)
C50179-24 (24 VDC)
2.75"
A Ø: 2.75" [70 mm]
B Ø: 2.4" [61 mm]
C: 6.89" [175 mm]
Weight: 3.6 lb [1.62 kg]



C50180-12 (12 VDC)
C50180-24 (24 VDC)
3.0"
A Ø: 3.0" [76 mm]
B Ø: 2.64" [67 mm]
C: 6.89" [175 mm]
Weight: 3.5 lb [1.59 kg]



C50181-12 (12 VDC)
C50181-24 (24 VDC)
3.5"
A Ø: 3.5" [89 mm]
B Ø: 3.15" [80 mm]
C: 8.07" [205 mm]
Weight: 4.1 lb [1.88 kg]



C50182-12 (12 VDC)
C50182-24 (24 VDC)
4.0"
A Ø: 4.0" [102 mm]
B Ø: 3.66" [93 mm]
C: 8.07" [205 mm]
Weight: 3.9 lb [1.79 kg]



C50183-12 (12 VDC)
C50183-24 (24 VDC)
5.0"
A Ø: 5.0" [127 mm]
B Ø: 4.65" [118 mm]
C: 9.09" [231 mm]
Weight: 4.8 lb [2.17 kg]

For information on Mounting Groups (Hose, Clamps CAC Pipe) see COMPONENT SECTION page 61-64

PH 1
PH 2
PH 3
PH 5
COMPONENTS

PH5 Specific Components for Automatic Activation

POWERGUARD AUTOMATIC CONTROLLER

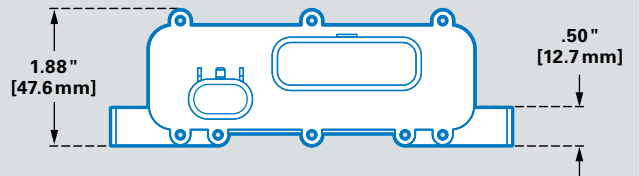
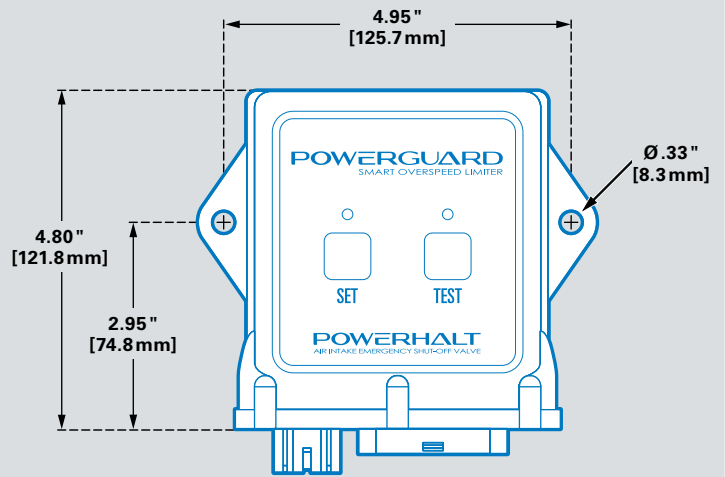
PowerGuard Automatic Control monitors engine speed through a gear tooth sensor mounted to the transmission bell housing using an existing auxiliary port or by the drilling and tapping of a new port. The controller has a programmable trip speed – when the programmed trip speed is exceeded, emergency engine shutdown will occur automatically. Emergency shutdown can be activated at any time through a manual override switch.

- Automatically activates when programmed trip speed is exceeded
- Manual override from cab/panel mounted switch

AUTOMATIC SPECIFICATIONS	
CONTROLLER HOUSING MATERIAL COMPLIANCE	SAE J1455 -40°F to +185°F [-40°C to 85°C]
CONTROLLER VOLTAGE	12/24 VDC (10.8 to 28 VDC)
MAXIMUM RELAY RATING	20 A @ 28 VDC
POWER CONSUMPTION (IDLE)	30 mA max continuous, nominal



**C20568
CONTROLLER**



CRANK POSITION SENSOR T JUMPER

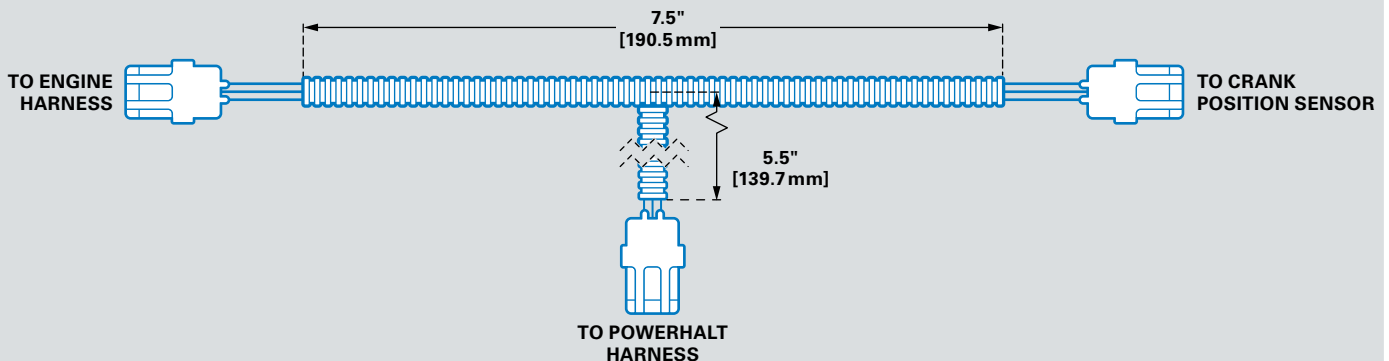


Optional T jumper harness for reading OEM Crank Position Sensor signal. Compatible with C20535 and C20544 harnesses.

**C20577
CRANK POSITION SENSOR T JUMPER**

APPLICATION: Cummins ISB, ISC, ISL
NOTE: Crank Position Sensor MUST supply 0-5 VDC Square Wave

SPECIFICATIONS	
TEMPERATURE RATING (CONTINUOUS)	-40°F to +221°F [-40°C to +105°C]
FLAMMABILITY RATING	FT2
ROHS COMPLIANT	Yes
WIRING	SAE J1128, Tinned Copper Conductor
ENGINE HARNESS CONNECTOR	Apex 2.8 series (54200315)
CRANK POSITION SENSOR CONNECTOR	Apex 2.8 series (54200315)



PH 1

PH 2

PH 3

PH 5

COMPONENTS

MAGNETIC PICK UP

- Measures RPM and sends a signal to the PowerGuard switch to shutdown the engine when engine runaway occurs
- Robust designs that are capable of surviving extreme working environments

INSTALLATION TORQUES

THREAD SIZE	INSTALLATION TORQUE
3/8 - 24 UNF	44 ± 4 in-lbf [5.0 ± 0.5 N•m]
5/8 - 18 UNF	18 ± 2 ft-lbf [24.4 ± 2.7 N•m]
3/4 - 16 UNF	60 ± 2 ft-lbf [81.3 ± 2.7 N•m]

VARIABLE RELUCTANCE SENSOR SPECS

MANUFACTURER	Eaton Fuller
MANUFACTURER PART #	4307352
CONNECTOR	Deutsch DT Series, Part # DT06-2S-E003

HALL EFFECT SENSOR SPECIFICATIONS

TEMPERATURE RANGE	-40°F to +221°F [-40°C to 105°C]
SIGNAL OUTPUT	0 to 5 VDC TTL
CONNECTOR	Weather-Pack, Male, 3 Pin (Delphi # 12010717)



C50137
MAG PICK UP ADAPTER
INTERNAL THREAD: 3/8 - 24 UNF
EXTERNAL THREAD: 3/4 - 16 UNF



NOTE: If you have either of the flywheels with the "X" you require C50137 adapter and a C50095 Hall Effect sensor



C50032
MAG PICK UP
HALL EFFECT SENSOR
LENGTH: 2" [50.8mm]
THREAD: 3/8 - 24 UNF



C50033
MAG PICK UP
HALL EFFECT SENSOR
LENGTH: 2" [50.8mm]
THREAD: 5/8 - 18 UNF



C50034
MAG PICK UP
HALL EFFECT SENSOR
LENGTH: 2.5" [63.5mm]
THREAD: 3/4 - 16 UNF



C50095
MAG PICK UP
HALL EFFECT SENSOR
LENGTH: 3" [76.2mm]
THREAD: 3/8 - 24 UNF



C50279
MAG PICK UP
HALL EFFECT SENSOR
LENGTH: 2.5" [63.5mm]
THREAD: 5/8 - 18 UNF

CRANK POSITION WIRE JUMPER



Optional single wire jumper harness for reading OEM Crank Position Sensor signal. Compatible with C20535 and C20544 harnesses.

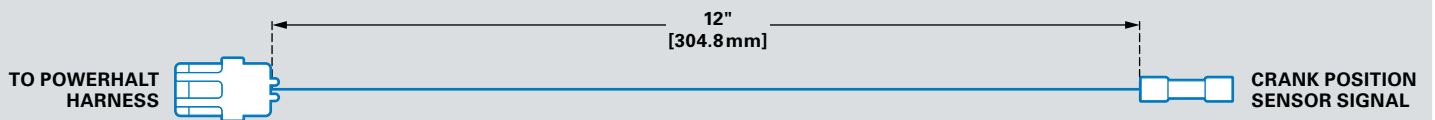
C20656
CRANK POSITION WIRE JUMPER

APPLICATION: Universal

NOTE: Crank Position Sensor MUST supply 0-5 VDC TTL Square Wave

SPECIFICATIONS

TEMPERATURE RATING (CONTINUOUS)	-40°F to +221°F [-40°C to +105°C]
FLAMMABILITY RATING	FT2
ROHS COMPLIANT	Yes
WIRING	SAE J1128, Tinned Copper Conductor



PH5 Specific Components for Automatic/Manual Activation

TOGGLE SWITCH KIT

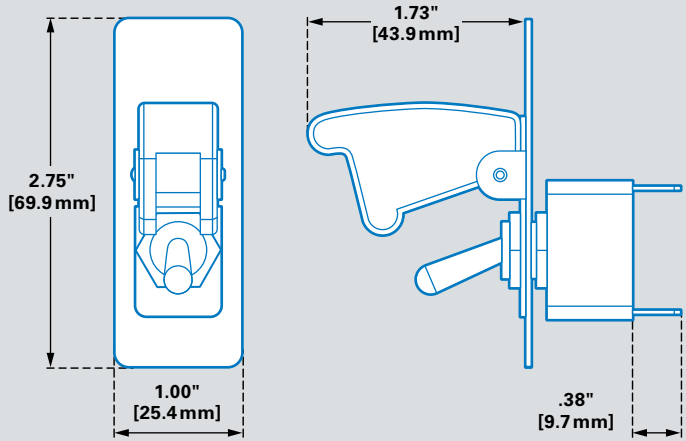


- Military style toggle switch with safety guard to prevent false trip hazards
- Provides means to shut-off the engine or to test the valve
- Pull/Push button options available
- For manual and automatic activation

C50274

TOGGLE SWITCH KIT

Kit Includes: C3716 - Switch
C3717 - Switch Guard
C3816 - Switch Plate



SPECIFICATIONS	
THRU-HOLE DRILL SIZE	.5" [12.7 mm]
TEMPERATURE RATING	-13°F to +176°F [-25°C to +80°C]
RATED CURRENT	6.25 A @ 12 VDC
MOUNTING PANEL THICKNESS	.266" [6.75 mm] Maximum

VALVE POSITION SWITCH (OPTIONAL)



Optional valve position switch, allows for additional indicator of valve position. Switch is supplied with a harness and is easily installed into provision in all PH5 valves. Available in 2 different configurations: Normally Open and Normally Closed.

SPECIFICATIONS	
TEMPERATURE RATING	-40°F to +302°F [-40°C to +150°C]
SUPPLY VOLTAGE	9 to 32 VDC nominal
INGRESS PROTECTION	IP 67
MOUNTING THREADS	M18 x 1.5 6 g
CURRENT RATING	1A
INSTALLATION TORQUE	28 ± 2 in-lbf [38 ± 2.8 N•m]



C50288
VALVE POSITION SWITCH
CONFIGURATION: Normally open



C50289
VALVE POSITION SWITCH
CONFIGURATION: Normally closed

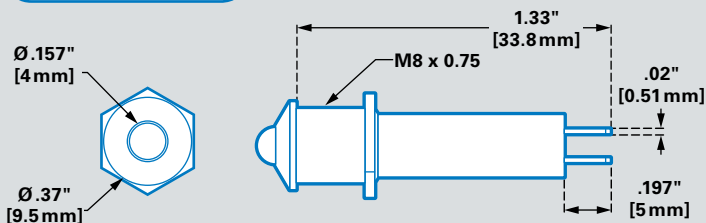
PANEL INDICATOR LIGHT (OPTIONAL)



Get instant notification on the status of your PowerHalt Valve with this LED panel indicator warning light for your dash.

C11313 & C11313-24 (24VDC)
PANEL INDICATOR LIGHT
APPLICATION: PH5 manual with toggle switch

SPECIFICATIONS	
THRU-HOLE DRILL SIZE	.315" [8 mm]
TEMPERATURE RATING	-40°F to +185°F [-40°C to +85°C]
SUPPLY VOLTAGE	12 VDC nominal 24 VDC nominal
CONNECTION	.11" x .02" [2.79 mm x 0.5 mm] quick connect terminals
MOUNTING PANEL THICKNESS	.266" [6.75 mm] maximum



LOW POWER WIRING HARNESS



Custom plug & play wiring harness with weather tight connectors.

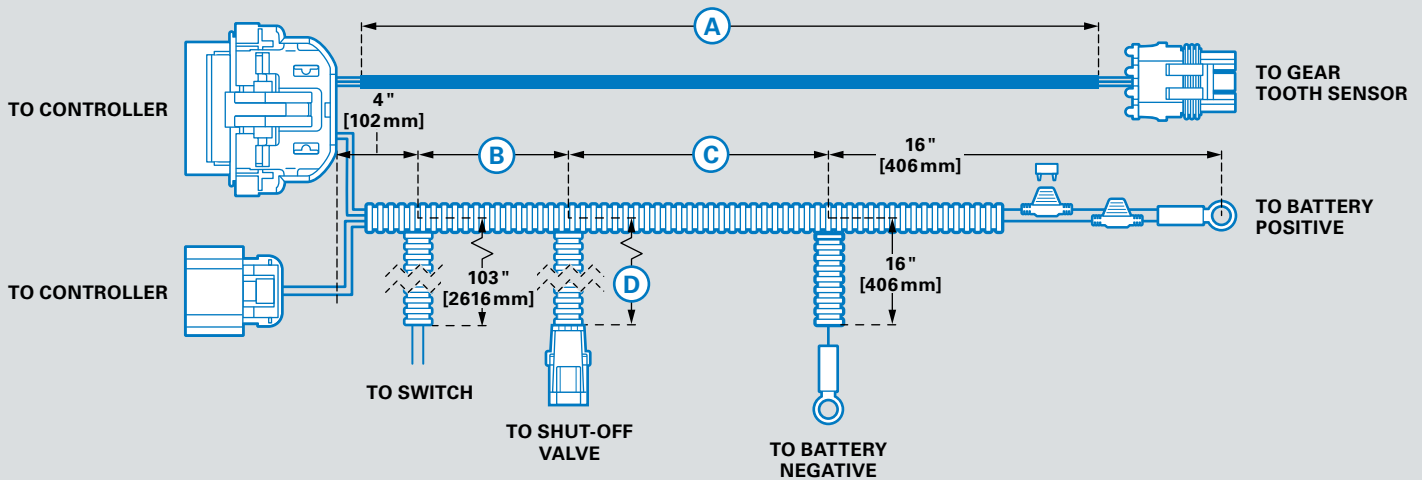
- Sealed connectors
- Environmentally resistant to fuel, oil and solvent compatible

SPECIFICATIONS	
TEMPERATURE RATING (CONTINUOUS)	-40°F to +221°F [-40°C to +105°C]
FLAMMABILITY RATING	FT2
ROHS COMPLIANT	Yes
WIRING	SAE J1128, Tinned Copper Conductor

WIRING HARNESS WITH MAGNETIC PICK-UP

PART #	A	B	C	D
C20528	108" [2743 mm]	3.5" [89 mm]	101" [2565 mm]	99" [2515 mm]

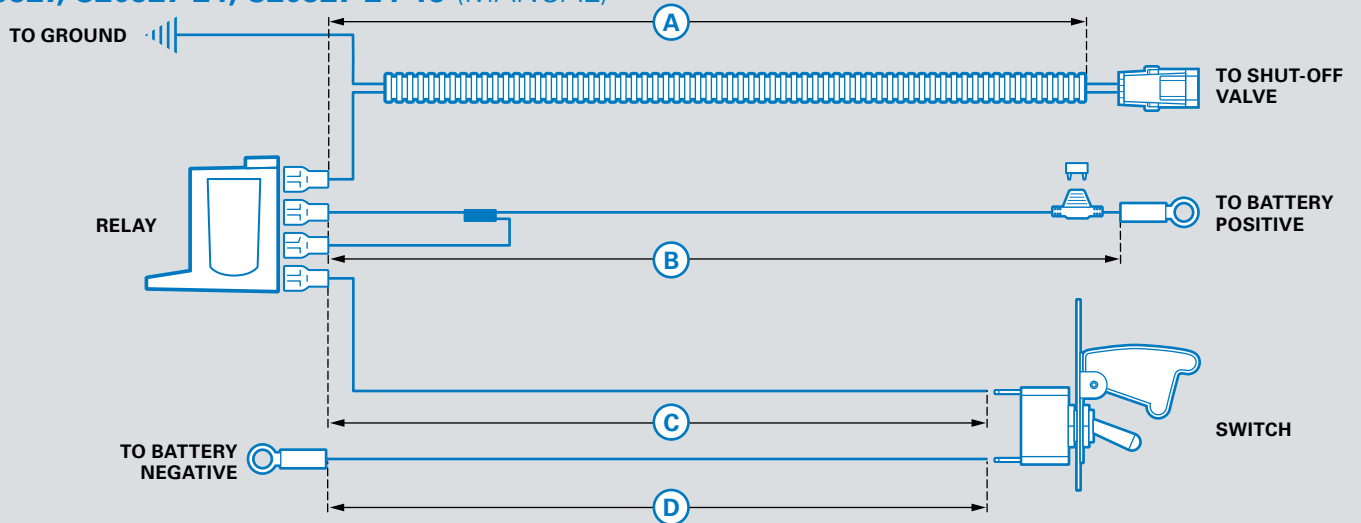
C20528 (AUTOMATIC)



WIRING HARNESS WITHOUT MAGNETIC PICK-UP

PART #	A	B	C	D
C20527 (12 VDC)	150" [3810 mm]	53" [1346 mm]	96" [2438 mm]	84" [2134 mm]
C20527-24 (24 VDC)	150" [3810 mm]	53" [1346 mm]	96" [2438 mm]	84" [2134 mm]
C20527-24-15 (24 VDC)	210" [5334 mm]	53" [1346 mm]	96" [2438 mm]	210" [5334 mm]

C20527, C20527-24, C20527-24-15 (MANUAL)



PH 1

PH 2

PH 3

PH 5

COMPONENTS

WARRANTY

HIGH POWER WIRING HARNESS



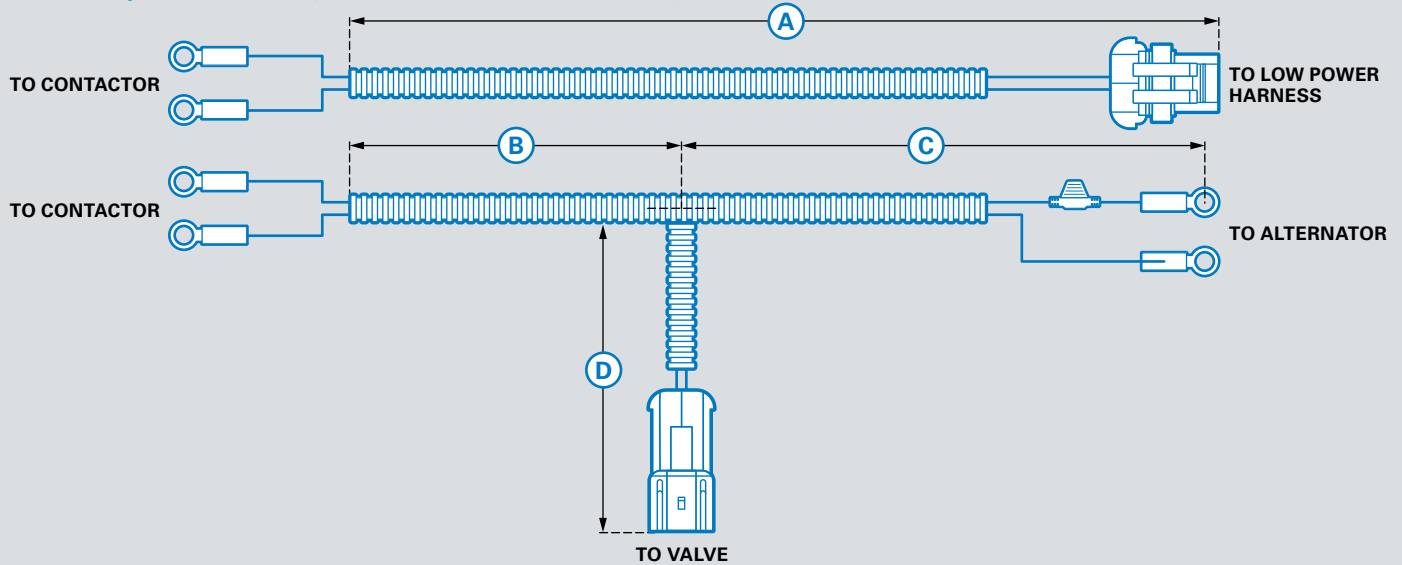
Used in conjunction with the low power wiring harness, to supply high power current to the PH5 solenoid. Integrates with existing low power wiring harness.

- Sealed connectors
- Environmentally resistant to fuel, oil and solvent compatible

SPECIFICATIONS	
TEMPERATURE RATING (CONTINUOUS)	-40°F to +221°F [-40°C to +105°C]
FLAMMABILITY RATING	FT2
ROHS COMPLIANT	Yes
WIRING	SAE J1128, Tinned Copper Conductor

PART #	WIRING HARNESS WITH MAGNETIC PICK-UP			
	A	B	C	D
C20590-12 (12 VDC)	12" [305 mm]	96" [2438 mm]	48" [1219 mm]	6" [152 mm]
C20590-24 (24 VDC)	12" [305 mm]	96" [2438 mm]	48" [1219 mm]	6" [152 mm]

C20590-12, C20590-24 (AUTOMATIC & MANUAL)



CONTACTOR



The contactor relay works in conjunction with the PH5 high power wiring harness.

C50302-12
12 VDC CONTACTOR
 APPLICATION: PH5 12 VDC valve
 ELECTRIC CYCLE LIFE: 100,000
 RESISTANCE 5.4 Ω @ 25°C

C50302-24
24 VDC CONTACTOR
 APPLICATION: PH5 24 VDC valve
 ELECTRIC CYCLE LIFE: 60,000
 RESISTANCE 20.1 Ω @ 25°C

SPECIFICATIONS	
MAX DUTY CYCLE	25% Duty Cycle
MAX ON TIME	6 min
CURRENT RATING	Carry/Interrupt: 150/250 A
TEMPERATURE RANGE	-40 to 82°C
SEALED	IP66 & IP67 Rating
STUD SIZE	Contact: 5/16"-24
TORQUE	Contact: 45 in-lb MAX
STUD SIZE	Coil: #10-32
TORQUE	Coil: 15 in-lb MAX

How to use the PH5 Custom Order Chart:

- 1 Choose a: + + + *
- 2 Place order using PH5 part numbers. **Example PH5 Valve Order:** C50175-12 C50304A-12 C50117 *
- 3 Choose any other custom valve components. See Component Section.

PH5 POWERHALT SHUT-OFF VALVES CUSTOM ORDER CHART

VALVE MODEL	PH5	PART #	CONTENTS
VALVE SIZE (OUTSIDE DIMENSION)		C50175-12 (12 VDC) C50175-24 (24 VDC)	1.75" Valve
		C50176-12 (12 VDC) C50176-24 (24 VDC)	2.0" Valve
		C50177-12 (12 VDC) C50177-24 (24 VDC)	2.25" Valve
		C50178-12 (12 VDC) C50178-24 (24 VDC)	2.5" Valve
		C50179-12 (12 VDC) C50179-24 (24 VDC)	2.75" Valve
		C50180-12 (12 VDC) C50180-24 (24 VDC)	3.0" Valve
		C50181-12 (12 VDC) C50181-24 (24 VDC)	3.5" Valve
		C50182-12 (12 VDC) C50182-24 (24 VDC)	4.0" Valve
		C50183-12 (12 VDC) C50183-24 (24 VDC)	5.0" Valve
CONTROL OPTIONS**	AUTOMATIC + MAGNETIC SENSOR SEE PAGE 55	C50304A-12	Automatic Controller Toggle Switch 12 VDC Harnesses
		C50304A-24	Automatic Controller Toggle Switch 24 VDC Harnesses
	MANUAL	50304-12	Toggle Switch 12 VDC Harnesses
		50304-24	Toggle Switch 24 VDC Harnesses
MOUNTING GROUPS			There are many mounting groups available depending on the application, see the COMPONENT SECTION, page 61-64.

* AUTOMATIC CONTROL OPTIONS MUST ALSO ADD A MAGNETIC PICK-UP, SEE PAGE 55
 ** PICK THE CONTROL KIT OPTIONS BASED ON THE LENGTH OF HARNESS

HEAVY DUTY CLAMPS

Pacbrake offers two types of heavy duty clamps: spring loaded t-bolt or constant tension gear clamps. These clamps are designed to compensate for fluctuations in hose line assemblies. When temperature and/or pressure changes cause hose lines to expand or contract, Pacbrake's clamps adjust accordingly to provide consistent band tension.



**C3975
GEAR CLAMP**
Min: 1.75" [44.5 mm]
Max: 2.625" [66.7 mm]
Band width: 0.625"
[15.9 mm]
SAE: 262



**C3976
GEAR CLAMP**
Min: 2.25" [57.2 mm]
Max: 3.125" [79.4 mm]
Band width: 0.625"
[15.9 mm]
SAE: 312



**C3873
SPRING LOADED**
Min: 3.25" [82.6 mm]
Max: 3.563" [90.5 mm]
Band width: 0.75"
[19.1 mm]
SAE: 76



**C3977
SPRING LOADED**
Min: 3.875" [98.4 mm]
Max: 4.188" [106.4 mm]
Band width: 0.75"
[19.1 mm]
SAE: 96



**C3878
SPRING LOADED**
Min: 4.5" [114.3 mm]
Max: 4.813" [122.2 mm]
Band width: 0.75"
[19.1 mm]
SAE: 116



**C3881
SPRING LOADED**
Min: 5.25" [133.4 mm]
Max: 5.563" [141.3 mm]
Band width: 0.75"
[19.1 mm]
SAE: 140



**C3798
SPRING LOADED**
Min: 5.75" [146 mm]
Max: 6.06" [154 mm]
Band width: 0.75"
[19.1 mm]
SAE: 156



**C3871
SPRING LOADED**
Min: 2.75" [69.9 mm]
Max: 3.063" [77.8 mm]
Band width: 0.75"
[19.1 mm]
SAE: 60



**C3874
SPRING LOADED**
Min: 3.5" [88.9 mm]
Max: 3.813" [96.8 mm]
Band width: 0.75"
[19.1 mm]
SAE: 84



**C3876
SPRING LOADED**
Min: 4.063" [103.2 mm]
Max: 4.375" [111.1 mm]
Band width: 0.75"
[19.1 mm]
SAE: 102



**C3879
SPRING LOADED**
Min: 4.75" [120.7 mm]
Max: 5.063" [128.6 mm]
Band width: 0.75"
[19.1 mm]
SAE: 124



**C3882
SPRING LOADED**
Min: 5.5" [139.7 mm]
Max: 5.813" [147.6 mm]
Band width: 0.75"
[19.1 mm]
SAE: 148



**C3872
SPRING LOADED**
Min: 3.0" [76.2 mm]
Max: 3.313" [84.1 mm]
Band width: 0.75"
[19.1 mm]
SAE: 68



**C3875
SPRING LOADED**
Min: 3.75" [95.3 mm]
Max: 4.063" [103.2 mm]
Band width: 0.75"
[19.1 mm]
SAE: 92



**C3877
SPRING LOADED**
Min: 4.125" [104.8 mm]
Max: 4.438" [112.7 mm]
Band width: 0.75"
[19.1 mm]
SAE: 104



**C3880
SPRING LOADED**
Min: 5.125" [130.2 mm]
Max: 5.438" [138.1 mm]
Band width: 0.75"
[19.1 mm]
SAE: 136



**C3883
SPRING LOADED**
Min: 5.688" [144.5 mm]
Max: 6.0" [152.4 mm]
Band width: 0.75"
[19.1 mm]
SAE: 154

CONSTANT TENSION GEAR CLAMPS	
STANDARD	SAE J1508 Type SLHD
SAE SIZES	262, 312
SIZE RANGE	1.75" to 3.125" [44.5 mm to 79.4 mm]
INSTALLATION TORQUE	70 in-lbf [7.9 N•m]

SPRING LOADED T-BOLT CLAMPS	
STANDARD	SAE J1508 Type SLTB
SAE SIZES	60, 68, 76, 84, 92, 96, 102, 104, 116, 124, 136, 140, 148, 154, 156
SIZE RANGE	2.75" to 6.06" [69.9 mm to 154 mm]
INSTALLATION TORQUE	70 in-lbf [7.9 N•m]

PowerHalt Components

MOUNTING KITS



- The mounting kit comes with the appropriate mounting group to include 2 hoses and 4 clamps, ensuring a successful installation into your system
 - Adapters and piping are also available as separate options
- For special application requirements, please contact your PowerHalt sales representative**

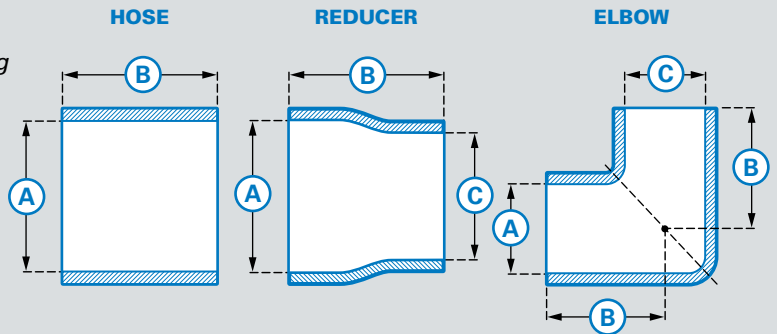
MOUNTING KITS (comes with 2 silicone hoses and 4 clamps)		
VALVE SIZE	DESCRIPTION	PART #
1.75"	To 1.5" Pipe (Reducer Hose)	C50190
1.75"	To 1.75" Pipe (Straight Hose)	C50117
2.0"	To 2.0" Pipe (Straight Hose)	C50118
2.25"	To 2.25" Pipe (Straight Hose)	C50119
2.5"	To 2.5" Pipe (Straight Hose)	C50116
2.8"	To 2.5" Pipe (Reducer Hose)	C50100
	To 2.75" Pipe (Straight Hose)	C50101
	To 3.0" Pipe (Reducer Hose)	C50102
3.0"	To 3.0" Pipe (Straight Hose)	C50105
3.5"	To 3.0" Pipe (Reducer Hose)	C50103
	To 3.5" Pipe (Straight Hose)	C50104
4.0"	To 3.5" Pipe (Reducer Hose)	C50106
	To 4.0" Pipe (Straight Hose)	C50107
	To 4.5" Pipe (Reducer Hose)	C50108
5.0"	To 4.5" Pipe (Reducer Hose)	C50109
	To 5.0" Pipe (Straight Hose)	C50110
	To 5.5" Pipe (Reducer Hose)	C50111
5.5"	To 5.5" Pipe (Straight Hose)	C50112

SILICONE HOSES & REDUCERS



Pacbrake's silicone hoses are designed to operate under the most extreme conditions found anywhere in a modern engine. For use where connections are required between rigid or flexible metal pipes. Hoses and reducers are ideal for joining pipes of similar or differing diameters.

SPECIFICATIONS	
TEMPERATURE RATING	-67°F to 347°F [-55°C to 175°C]
PRESSURE RATING	Conforms to SAE J20 (20R1 HD SW)
HOSE SIZES	1.5" to 5.5" [38 mm to 139.7 mm]



C3912
HOSE-1.75"
A: 1.75" [44.5 mm]
B: 3.0" [76.2 mm]



C3913
HOSE-2.0"
A: 2.0" [50.8 mm]
B: 3.0" [76.2 mm]



C3914
HOSE-2.25"
A: 2.25" [57.2 mm]
B: 3.0" [76.2 mm]



C3997
HOSE-2.5"
A: 2.5" [63.5 mm]
B: 3.0" [76.2 mm]



C3784
HOSE-2.75"
A: 2.75" [69.9 mm]
B: 3.0" [76.2 mm]



C3828
HOSE-3.0"
A: 3.0" [76.2 mm]
B: 3.0" [76.2 mm]



C3789
HOSE-3.5"
A: 3.5" [88.9 mm]
B: 3.0" [76.2 mm]



C3859
HOSE - 3.5"
A: 3.5" [88.9 mm]
B: 4.0" [101.6 mm]



C3792
HOSE - 4.0"
A: 4.0" [101.6 mm]
B: 3.0" [76.2 mm]



C3797
HOSE - 5.0"
A: 5.0" [127 mm]
B: 3.0" [76.2 mm]



C5009
HOSE - 5.5"
A: 5.5" [139.7 mm]
B: 3.0" [76.2 mm]



C4070
REDUCER
A: 1.75" [44.5 mm]
B: 3.0" [76.2 mm]
C: 1.5" [38.1 mm]



C5011
REDUCER
A: 2" [50.8 mm]
B: 3" [76.2 mm]
C: 2.5" [63.5 mm]



C4108
REDUCER
A: 2.5" [63.5 mm]
B: 3.0" [76.2 mm]
C: 1.75" [44.5 mm]



C3835
REDUCER
A: 2.75" [69.9 mm]
B: 3.0" [76.2 mm]
C: 1.75" [44.5 mm]



C3783
REDUCER
A: 2.75" [69.9 mm]
B: 3.0" [76.2 mm]
C: 2.5" [63.5 mm]



C3786
REDUCER
A: 3.0" [76.2 mm]
B: 3.0" [76.2 mm]
C: 2.75" [69.9 mm]



C3866
REDUCER
A: 3.5" [88.9 mm]
B: 3.0" [76.2 mm]
C: 2.5" [63.5 mm]



C3831
REDUCER
A: 3.5" [88.9 mm]
B: 3.0" [76.2 mm]
C: 2.75" [69.9 mm]



C3788
REDUCER
A: 3.5" [88.9 mm]
B: 3.0" [76.2 mm]
C: 3.0" [76.2 mm]



C3860
REDUCER
A: 3.5" [88.9 mm]
B: 3.0" [76.2 mm]
C: 3.25" [82.6 mm]



C3861
REDUCER
A: 3.75" [95.3 mm]
B: 3.0" [76.2 mm]
C: 3.5" [88.9 mm]



C3791
REDUCER
A: 4.0" [101.6 mm]
B: 3.0" [76.2 mm]
C: 3.5" [88.9 mm]



C3862
REDUCER
A: 4.0" [101.6 mm]
B: 3.0" [76.2 mm]
C: 3.75" [95.3 mm]



C3863
REDUCER
A: 4.25" [108 mm]
B: 3.0" [76.2 mm]
C: 4.0" [101.6 mm]



C3794
REDUCER
A: 4.5" [114.3 mm]
B: 3.0" [76.2 mm]
C: 4.0" [101.6 mm]



C3796
REDUCER
A: 5.0" [127 mm]
B: 3.0" [76.2 mm]
C: 4.5" [114.3 mm]



C3864
REDUCER
A: 5.0" [127 mm]
B: 3.0" [76.2 mm]
C: 4.75" [120.7 mm]



C3865
REDUCER
A: 5.25" [133.4 mm]
B: 3.0" [76.2 mm]
C: 5.0" [127 mm]



C3799
REDUCER
A: 5.5" [139.7 mm]
B: 3.0" [76.2 mm]
C: 5.0" [127 mm]



C3832
120° ELBOW
A: 2.75" [69.9 mm]
B: 5.0" [127 mm]
C: 2.75" [69.9 mm]



C3857
90° ELBOW
A: 3.0" [76.2 mm]
B: 5.0" [127 mm]
C: 2.75" [69.9 mm]



C3834
90° ELBOW
A: 3.5" [88.9 mm]
B: 5.0" [127 mm]
C: 2.75" [69.9 mm]



C3829
90° ELBOW
A: 3.5" [88.9 mm]
B: 5.0" [127 mm]
C: 3.0" [76.2 mm]

CAC PIPE

- AISI 409 stainless steel
- Pre beaded pipe ends
- Mandrel bent



**C3830
CAC PIPE**
Replacement Pipe
For Kit #: C50202 & C50202A



**C3827
CAC PIPE**
Replacement Pipe
For Kit #: C50201 & C50201A



**C3826
CAC PIPE**
Replacement Pipe
For Kit #: C50200 & C50200A



**C3833
CAC PIPE**
Replacement Pipe
For Kit #: C50204, C50204A & C50254A



**C3884
CAC PIPE**
Replacement Pipe
For Kit #: C50203 & C50203A

BEAD RING KITS

- Reduce the chances of blowing silicone hoses off
- Easy to install (tack weld in) bead rings
- Each kit contains two rings



**C50138
BEAD RING KIT**
Pipe Size: 2.5" [63.5mm]



**C50139
BEAD RING KIT**
Pipe Size: 3.0" [76.2mm]



**C50140
BEAD RING KIT**
Pipe Size: 3.5" [88.9mm]



**C50141
BEAD RING KIT**
Pipe Size: 4.0" [101.6mm]



**C50142
BEAD RING KIT**
Pipe Size: 4.5" [114.3mm]



**C50143
BEAD RING KIT**
Pipe Size: 5.0" [127mm]



POWERHALT
AIR INTAKE EMERGENCY SHUT-OFF VALVES by PACBRAKE

Diesel Engines are used in many work places where combustible gases and vapors exist. Such environments are prone to conditions for engine runaway, resulting in catastrophic loss to life and property. Because of this risk, governments and industries now mandate operators to utilize Emergency Shut -Off Valve as a safety device.

ELIMINATING THE RISK OF
DIESEL ENGINE RUNAWAY

