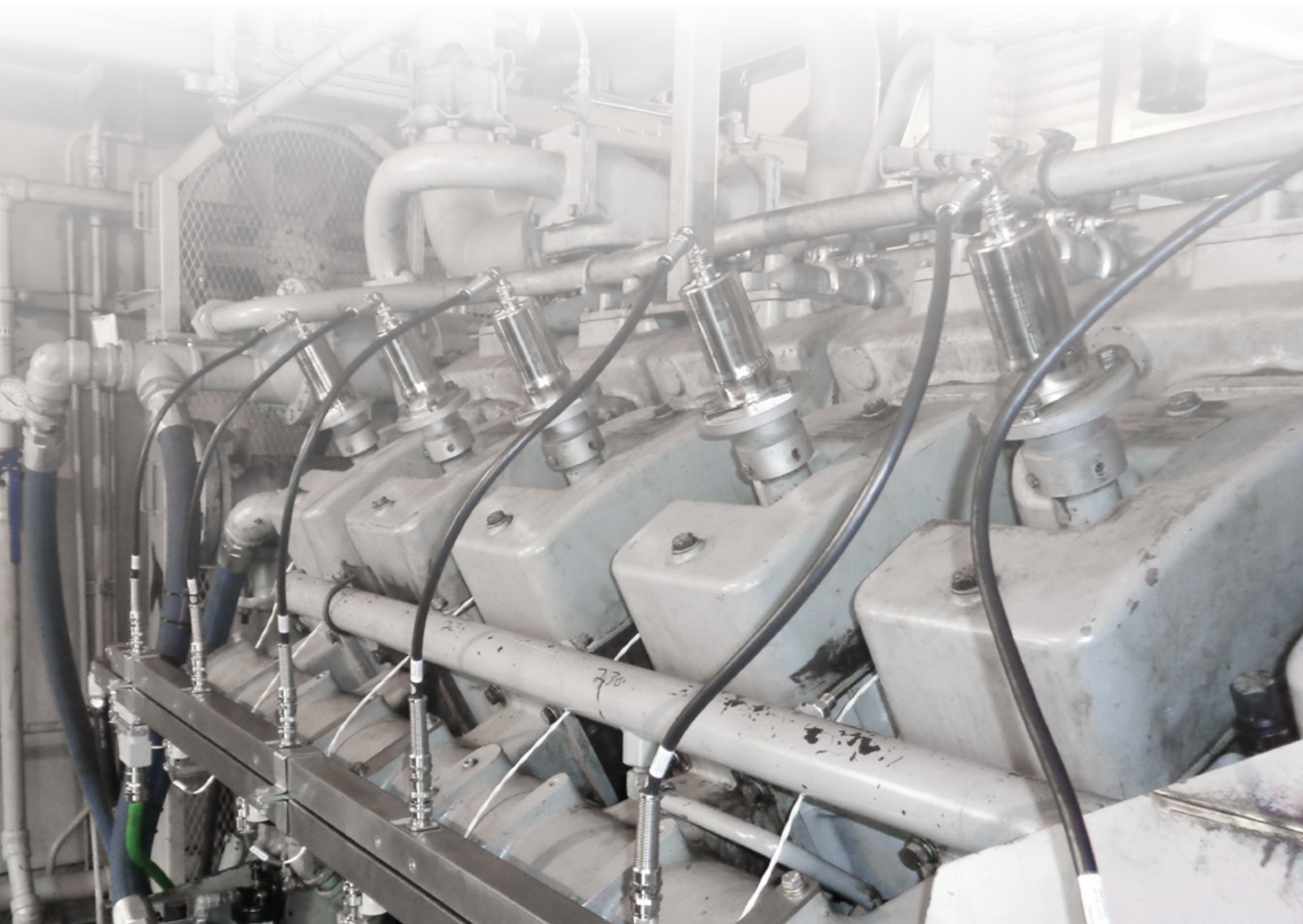


APPLICATION GUIDE

For WAUKESHA[®] VHP Series



GAS ENGINE TECHNOLOGY

reliable • efficient • worldwide

■ Ignition Controllers & Harnesses

MIC3+CEC Ignition Controllers



- **High energy retrofit ignition controller** ¹⁾
- More than double the ignition energy (300 mJ)
- Plug & play solution enables quick conversion without great effort
- Predefined configuration data can be easily uploaded to the ignition controller
- For use with VHP F2895, F3521

P/N 66.00.358-8

Equivalent to:

WAUKESHA® P/N 740608A, 740608
CEC Models 811/811A
MOTORTECH P/N 06.00.515-6/-8
MOTORTECH MIC500

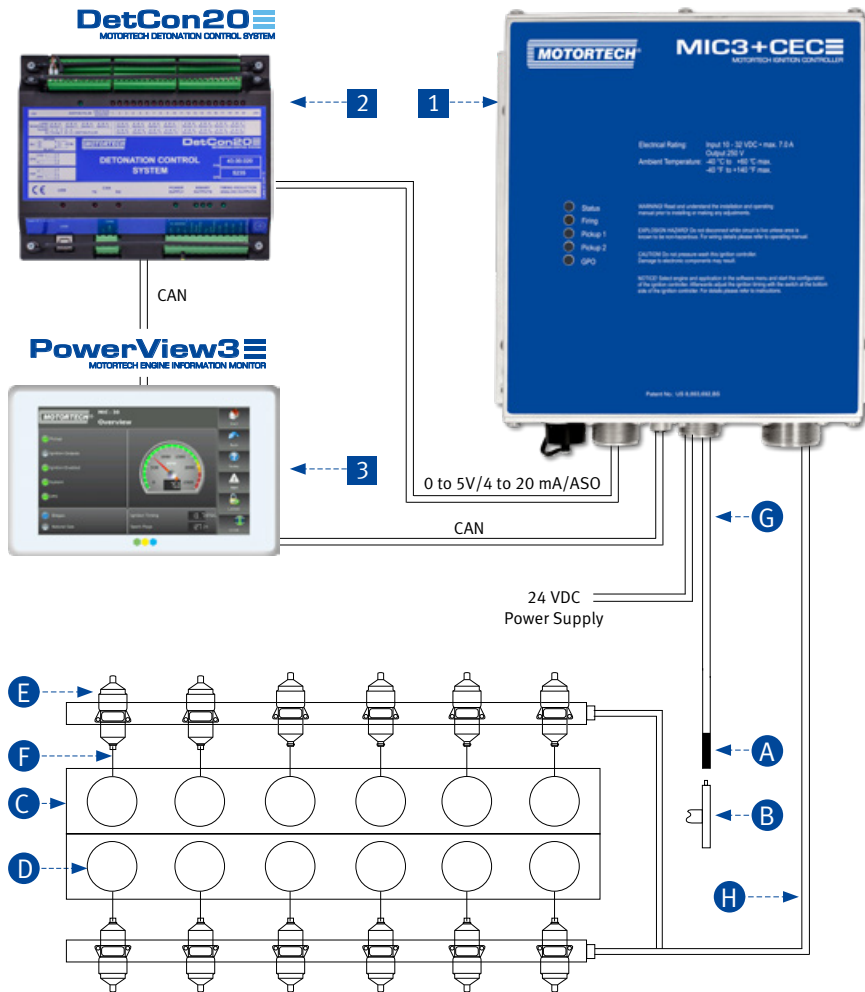
- **High energy retrofit ignition controller** ¹⁾
- More than double the ignition energy (300 mJ)
- Plug & play solution enables quick conversion without great effort
- Predefined configuration data can be easily uploaded to the ignition controller
- For use with VHP L5108, L5790, L7042

P/N 66.00.359-12

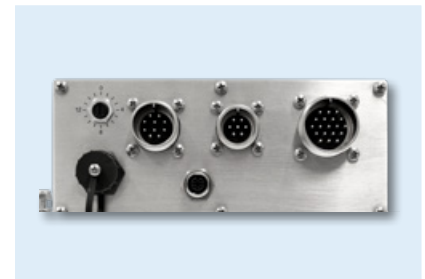
Equivalent to:

WAUKESHA® P/N 740609A, 740609
CEC Models 1211/1211A
MOTORTECH P/N 06.00.516
MOTORTECH MIC500

¹⁾ Patented technology (Patent No. US 8,893,692 BS)



Special bracket kit to mount the ignition controller on the position of the WAUKESHA® device.



Due to the same connector configuration, the existing input and output wiring can be re-used. Additional connectors for CAN Bus (PowerView3) and analog input (DetCon20) connection.

Required components

- 1 MIC3+CEC ignition controller

Accessories (optional)

- 2 DetCon20 detonation control system
- 3 PowerView3 HMI module

Description

- A Hall effect pickup
- B Camshaft
- C Engine
- D Cylinder
- E Ignition coil
- F Spark plug lead
- G Input wiring
- H Output wiring

2 The DetCon20 control unit offers full protection for gas engines from 2 to 20 cylinders. Microprocessor controlled, it will detect any detonation in the early stage and will send an analog signal (4 to 20 mA / 0 to 5 V) out to the ignition system to retard in a linear function. If detonation cannot be cured a signal will be send for load reduction and finally an engine STOP signal. CAN Bus interface included.

3 Complete visualization of MIC3+, MIC4 and MIC5 operating data, inclusive error diagnostic via optionally available PowerView3 HMI module (Human-Machine-Interface). The touchscreen guarantees an intuitive navigation through different display pages and menus. The PowerView3 is also available for data visualization of detonation control (DetCon) and temperature monitoring (TempScan).



Scan QR Code®

Ignition Controllers & Harnesses

Output Harnesses – Unshielded

■ Output harness for ALT III ignition magneto

- For unshielded applications up to 8 cylinders
- MIL connector, 14 pole, socket, 180°
- 180 in length

P/N 06.31.030-1 Equivalent to:
WAUKESHA® P/N 69703, 178622
ALTRONIC® P/N 393018-1

■ Output harness for ALT III ignition magneto

- For unshielded applications up to 12 cylinders
- MIL connector, 14 pole, socket, 180°
- 180 in length

P/N 06.31.030-2 Equivalent to:
WAUKESHA® P/N 269717B
ALTRONIC® P/N 393018-2

■ Output harness for ALT III/III-CPU/V ignition magneto, CPU95-EVS (ignition unit to J-Box or DC-DC power supply)

- For unshielded applications up to 6 cylinders
- MIL connector, 7 pole, socket, 180°
- 180 in length

P/N 06.31.032-2 Equivalent to:
WAUKESHA® P/N 69692B
ALTRONIC® P/N 393023-2

■ Output harness for ALT V ignition magneto

- For unshielded applications up to 6 cylinders
- MIL connector, 5 pole, socket, 180°
- 72 in length

P/N 06.77.006-72 Equivalent to:
WAUKESHA® P/N 209728
ALTRONIC® P/N 593041-1



Output Harnesses – Shielded

■ Output harness for ALT III/III-CPU ignition magneto

- For shielded applications up to 6 cylinders
- MIL connector, 7 pole, socket, 90°
- 48 in conduit length, 72 in conductor length

P/N 95.30.007-1 Equivalent to:
WAUKESHA® P/N 178788, 208502E
ALTRONIC® P/N 393013-1, 393013-3,
393013-7

■ Output harness for ALT III/III-CPU ignition magneto, CPU95-EVS (DC-DC power supply)

- For shielded applications up to 6 cylinders
- MIL connector, 7 pole, socket, 90°
- 20 in conduit length, 60 in conductor length

P/N 95.30.007-4 Equivalent to:
WAUKESHA® P/N 178788A
ALTRONIC® P/N 393013-4

■ Output harness for ALT III/III-CPU ignition magneto

- For shielded applications up to 8 cylinders
- MIL connector, 14 pole, socket, 90°
- 20 in conduit length, 42 in conductor length

P/N 95.30.008-3 Equivalent to:
WAUKESHA® P/N 178803
ALTRONIC® P/N 393014-3

■ Output harness for ALT III/III-CPU ignition magneto

- For shielded applications up to 12 cylinders
- MIL connector, 14 pole, socket, 90°
- 48 in conduit length, 72 in conductor length

P/N 95.30.008-4 Equivalent to:
WAUKESHA® P/N 208502C
ALTRONIC® P/N 393014-4



Ignition Controllers & Harnesses

Output Harnesses – Shielded



■ Output harness for ALT III/III-CPU ignition magneto

- For shielded applications up to 12 cylinders
- MIL connector, 14 pole, socket, 90°
- 36 in conduit length, 60 in conductor length

P/N 95.30.008-8

Equivalent to:

WAUKESHA® P/N 178804

ALTRONIC® P/N 393014-8

Harnesses for WAUKESHA® VHP Series Gas Engines with ESM

■ Harness for crankshaft pickup

- 45 in length



Equivalent to:

P/N A740749-MOT WAUKESHA® P/N A740749

■ Harness for camshaft pickup

- 43 in length



Equivalent to:

P/N A740750-MOT WAUKESHA® P/N A740750

■ Harness, electric start

- 46 in length

Equivalent to:

P/N 740744-MOT WAUKESHA® P/N 740744

■ Harness, ground, left bank to right bank

- 94 in length

Equivalent to:

P/N 740753-MOT WAUKESHA® P/N 740753

Ignition Coils

Ignition Coils



- **ALTRONIC® Style ignition coil**
- (-) ground
- For unshielded applications
- For use with CEC ignition controllers

P/N 06.50.054 Equivalent to:
WAUKESHA® P/N 69694B
ALTRONIC® P/N 591010



- **ALTRONIC® Style ignition coil**
- (-) ground
- For unshielded applications
- For use with CEC ignition controllers

P/N 06.50.055 Equivalent to:
WAUKESHA® P/N 69694
ALTRONIC® P/N 501061



- **Flange ignition coil**
- MIL connector, 3 pole, pin
- (-) ground
- For unshielded and shielded applications
- For use with CEC ignition controllers or ESM system

P/N 06.50.034 Equivalent to:
WAUKESHA® P/N 69694F
ALTRONIC® P/N 591012



Ignition Coils



Ignition Coils

- **Flange ignition coil**
- MIL connector, 3 pole, pin
- (-) ground
- For unshielded and shielded applications
- For use with CEC ignition controllers or ESM system

P/N 06.50.035 Equivalent to:
WAUKESHA® P/N 69694G, A69694G
ALTRONIC® P/N 591018

Optional to P/N 06.50.034 & 06.50.035:

- **Flange ignition coil with diagnostic interface**
- To monitor high voltage traces in a simple way
- With a MOTORTECH SparkView or digital Scope Meter the operator can receive real time data
- Due to same coil winding interchangeable with P/N 06.50.034, P/N 69694F and 591012 or P/N 06.50.035, 69694G, A69694G and 591018
- MIL connector, 3 pole, pin
- (-) ground
- For unshielded and shielded applications
- For use with CEC ignition controllers or ESM system

P/N 95.09.154 Equivalent to:
MOTORTECH P/N 06.50.034
P/N 95.09.155 MOTORTECH P/N 06.50.035



Additional BNC connector for high voltage measurement

■ Ignition Coils

Ignition Coils



- **Flange ignition coil with integrated primary lead**
- Combination of single flange ignition coil and primary lead
- DEUTSCH® connector, 3 pole, socket
- 30 in primary lead length
- (-) ground
- For unshielded and shielded applications
- For use with ESM system

P/N 06.50.035-30-A



Ignition Coils



Ignition Coils

- **Flange ignition coil with integrated primary lead**
- MIL connector, 3 pole, pin
- 36 in primary lead length
- (-) ground
- For unshielded and shielded applications
- For use with ESM system

Equivalent to:

P/N 06.50.035-36-E WAUKESHA® P/N 69957, 69957A

Optional to P/N 06.50.035-30-A & 06.50.035-36-E:

- **Flange ignition coils with diagnostic interface and integrated primary lead**
- To monitor high voltage traces in a simple way
- With a MOTORTECH SparkView or digital Scope Meter the operator can receive real time data
- Due to same coil winding interchangeable with P/N 06.50.035-30-A and P/N 06.50.035-36-E, 69957 and 69957A
- (-) ground
- For unshielded and shielded applications
- For use with ESM system

Equivalent to:

P/N 95.09.155-30-A MOTORTECH P/N 06.50.035-30-A
P/N 95.09.155-36-E MOTORTECH P/N 06.50.035-36-E



Ignition Coils

Ignition Coils



- **Externally mounted ignition coil**
- MIL connector, 3 pole, pin
- 3/4-20 UNEF high voltage termination
- (-) ground
- For shielded applications
- For use with CEC ignition controllers

P/N 95.09.054 Equivalent to:
 WAUKESHA® P/N 69694C
 ALTRONIC® P/N 591010-S



- **Externally mounted ignition coil**
- MIL connector, 3 pole, pin
- 3/4-20 UNEF high voltage termination
- (-) ground
- For shielded applications
- For use with CEC ignition controllers

P/N 95.09.055 Equivalent to:
 WAUKESHA® P/N 69694A
 ALTRONIC® P/N 0501061-S

Optional to P/N 95.09.054 & 95.09.055:



- **Externally mounted ignition coils with diagnostic interface**
- To monitor high voltage traces in a simple way
- With a MOTORTECH SparkView or digital Scope Meter the operator can receive real time data
- Due to same coil winding interchangeable with P/N 95.09.054, P/N 69694C and 591010-S or P/N 95.09.055, 69694A and 501061-S
- (-) ground
- For unshielded and shielded applications
- For use with CEC ignition controllers

P/N 95.09.074 Equivalent to:
 MOTORTECH P/N 95.09.054
 P/N 95.09.075 MOTORTECH P/N 95.09.055

Accessories

- **Ignition coil boot**
- For primary side, 180° outlet
- Made of silicone
- Fits ALTRONIC® ignition coil P/N 69694B, 591010, 69694, 501061

P/N 06.80.036

- **Ignition coil boot**
- For primary side, 180° outlet
- Made of silicone
- Fits MOTORTECH ignition coil P/N 06.50.054, 06.50.055

P/N 06.80.005

- **Ignition coil boot**
- For primary side, 90° outlet
- Made of silicone
- Fits ALTRONIC®/MOTORTECH ignition coil P/N 69694B, 591010, 69694, 501061, 06.50.054, 06.50.055

P/N 06.80.037



■ Ignition Coils

Tools & Test Equipment



- **SparkView high voltage indicator incl. SparkScan1 high voltage clamp or BNC Cable**
- For use with spark plug leads (requires SparkScan1 high voltage clamp)
- For use with flange ignition coils with diagnostic interface (requires BNC cable)

Quick and comfortable monitoring on a running engine makes it possible to detect:

- Wear of spark plugs
- Failure of the ignition system
(damaged ignition coil, spark plug lead or ignition controller)
- Faulty compression of a cylinder

P/N 06.90.099-100

For use with spark plug leads
(incl. SparkScan1 high voltage clamp)

P/N 06.90.099-105

For use with flange ignition coils with
diagnostic interface (incl. BNC cable)



Scan QR Code®

■ Ignition Coils



Spark Plug Carrier and Flange Adaptor for VHP-GL Engines

■ Adaptor for flange ignition coil/spark plug carrier

P/N 211749-MOT Equivalent to:
WAUKESHA® P/N 211749

NOTE: Screws and washers for fastening of flange ignition coil not included.
Hex head screws (3 pcs 5/16-18x3/4 in – WED P/N 21309) and washers
(3 pcs 5/16 in – WED P/N 21051) have to be supplied by customer.

■ Spark plug carrier

P/N 209567R Equivalent to:
WAUKESHA® P/N 209567R

NOTE: Screws and washers for fastening of flange adaptor not included.
Hex head screws (4 pcs 1/4-28x1/2 in – WED P/N 21296) and lock washers
(4 pcs 1/4 in – WED P/N 21050) have to be supplied by customer.

■ Installation tool for spark plug carrier

P/N 44.01.015

■ Spare feather key for installation tool

P/N 44.01.017



Scan QR Code®

Ignition Coils

Ignition Coils



■ Integral ignition coil - Slim Design

- 12 in length
- MIL connector, 3 pole, pin
- 13/16-20 UNEF inner thread
- (-) ground
- For shielded applications
- For use with CEC ignition controllers

Equivalent to:

P/N 95.09.222-12 WAUKESHA® P/N 69694D
ALTRONIC® P/N 591011B, 591011C

Optional:

■ Integral ignition coil – Fat Design

- Offers more energy than Slim Design integral ignition coils
- Interchangeable with P/N 95.09.222-12
- 11 in length
- MIL connector, 3 pole, pin
- 13/16-20 UNEF inner thread
- (-) ground
- For shielded applications
- For use with CEC ignition controllers

Equivalent to:

P/N 95.09.122-11 MOTORTECH P/N 95.09.222-12



■ Integral ignition coil - Slim Design

- 6 in length
- MIL connector, 3 pole, pin
- 1-20 UNEF outer thread, 13/16-20 UNEF inner thread
- (-) ground
- For shielded applications
- For use with CEC ignition controllers

Equivalent to:

P/N 95.09.223-6 WAUKESHA® P/N 60615F
ALTRONIC® P/N 591007



Scan QR Code®

■ Ignition Coils

Accessories for Integral Ignition Coils

- **Integral ignition coil grommet**
- Made of Teflon®
- Protects the spark plug well from dirt and liquids
- For use with Fat Design integral ignition coils

P/N 06.84.069



Tools & Test Equipment

- **Ignition coil tester**
- Professional tool to test all different kinds of ignition coils
- Built in CD ignition, high voltage clamp and a spark gap allow realistic testing
- Incl. standard adaptor kits for commonly used ignition coils on WAUKESHA VHP series gas engines

P/N 06.98.054



Scan QR Code®

Pickups & Trigger Drives

Pickups



■ **Magnetic pickup**

- Thread size 5/8-18 UNF
- 2.50 in length
- For unshielded and shielded applications

Equivalent to:
P/N 95.70.001-250 WAUKESHA® P/N A295844D, 208007A, 168273G
ALTRONIC® P/N 691118-2



■ **Magnetic pickup**

- Thread size 5/8-18 UNF
- 4.00 in length
- For unshielded and shielded applications

Equivalent to:
P/N 95.70.001-400 WAUKESHA® P/N 295844E
ALTRONIC® P/N 691118-4



■ **Hall effect pickup - Active Low**

- Thread size 5/8-18 UNF
- 1.75 in length
- For unshielded and shielded applications

Equivalent to:
P/N 95.70.002-175 WAUKESHA® P/N 295844
ALTRONIC® P/N 791050-1



■ **Hall effect pickup - Active Low**

- Thread size 5/8-18 UNF
- 2.50 in length
- For unshielded and shielded applications

Equivalent to:
P/N 95.70.002-250 WAUKESHA® P/N 295844A
ALTRONIC® P/N 791050-2

Pickups & Trigger Drives



Pickups

- **Hall effect pickup - Active Low**
- Thread size 5/8-18 UNF
- 4.50 in length
- For unshielded and shielded applications



Equivalent to:
P/N 95.70.002-450 WAUKESHA® P/N 295844B
ALTRONIC® P/N 791050-4

Pickup Harnesses for WAUKESHA® VHP Series Gas Engines with ESM

- **Harness for crankshaft pickup**
- 45 in length

Equivalent to:
P/N A740749-MOT WAUKESHA® P/N A740749



- **Harness for camshaft pickup**
- 43 in length

Equivalent to:
P/N A740750-MOT WAUKESHA® P/N A740750



■ Pickups & Trigger Drives

Trigger Discs with Magnets - Compatible with CEC Ignition System



- **Trigger disc with magnets**
- Diameter 7.45 in
- 6+1 events
- For use with 6 cylinder gas engines

P/N 06.20.069-6

Equivalent to:

WAUKESHA® P/N 305805R



- **Trigger disc with magnets**
- Diameter 7.45 in
- 12+1 events
- For use with 12 cylinder gas engines

P/N 06.20.069-12

Equivalent to:

WAUKESHA® P/N 305805P



- **Hub for trigger discs**
- For use with trigger discs P/N 06.20.069-6 and 06.20.069-12

P/N 06.20.070

Equivalent to:

WAUKESHA® P/N A168368E



- **Trigger disc with magnets**
- Diameter 7.45 in
- 6+1 events
- Comes with lock nut
- For use with 6 cylinder gas engines

P/N 06.20.025

Equivalent to:

WAUKESHA® P/N 305805F



- **Trigger disc with magnets**
- Diameter 7.45 in
- 12+1 events
- Comes with lock nut
- For use with 12 cylinder gas engines

P/N 06.20.026

Equivalent to:

WAUKESHA® P/N 305805G

■ Pickups & Trigger Drives



Trigger Discs with Magnets - Compatible with CEC Ignition System

- **Trigger disc with magnets**
- Diameter 5.35 in
- 8+1 events
- For use with 16 cylinder gas engines

P/N 06.20.252

Equivalent to:
WAUKESHA® P/N 305805N



Primary Leads

Primary Leads for shielded Applications



Conventional Style



- Available as Conventional Style and New Flex Style (Optional)
- Ignition coil connector 3 pole, socket, 90° or 180°
- 2 wire conductor
- 1/2-14 NPT outlet box adaptor

P/N 95.01.010-18 **Equivalent to:** WAUKESHA® P/N 178789 **1A**
 ALTRONIC® P/N 593022-18

Optional: P/N 95.01.110-18 New Flex Style  **2A**

P/N 95.01.010-24 **Equivalent to:** WAUKESHA® P/N 178789A **1A**
 ALTRONIC® P/N 593022-24

Optional: P/N 95.01.110-24 New Flex Style  **2A**

P/N 95.01.010-36 **Equivalent to:** WAUKESHA® P/N 178789B **1A**
 ALTRONIC® P/N 593022-36

Optional: P/N 95.01.110-36 New Flex Style  **2A**

P/N 95.01.010-42 **Equivalent to:** WAUKESHA® P/N 178789C **1A**
 ALTRONIC® P/N 593022-42

Optional: P/N 95.01.110-42 New Flex Style  **2A**

Primary Leads



Primary Leads for shielded Applications

P/N 95.01.010-30 Equivalent to:
 WAUKESHA® P/N 178789G 1A
 ALTRONIC® P/N 593022-30

Optional:
 P/N 95.01.110-30 New Flex Style  2A

P/N 95.01.010-15 Equivalent to:
 WAUKESHA® P/N 178789H 1A
 ALTRONIC® P/N 593022-15

Optional:
 P/N 95.01.110-15 New Flex Style  2A

P/N 95.01.010-18 Equivalent to:
 WAUKESHA® P/N 208503B 1A
 ALTRONIC® P/N 593022-18

Optional:
 P/N 95.01.110-18 New Flex Style  2A

P/N 95.01.010-30 Equivalent to:
 WAUKESHA® P/N 208503G 1A
 ALTRONIC® P/N 593022-30

Optional:
 P/N 95.01.110-30 New Flex Style  2A

P/N 95.01.020-30 Equivalent to:
 WAUKESHA® P/N 208503K 1B
 ALTRONIC® P/N 593027-30

Optional:
 P/N 95.01.120-30 New Flex Style  2B



New Flex Style



Primary Leads

Primary Leads for shielded Applications



Conventional Style



2B



New Flex Style

P/N 95.01.020-36	Equivalent to:		
	WAUKESHA® P/N	208503L	1B
	ALTRONIC® P/N	593027-36	
Optional:			
P/N 95.01.120-36	New Flex Style		2B

P/N 95.01.020-30	Equivalent to:		
	WAUKESHA® P/N	208503T	1B
	ALTRONIC® P/N	593027-30	
Optional:			
P/N 95.01.120-30	New Flex Style		2B

Primary Leads



Primary Leads for WAUKESHA® ESM Gas Engines

■ Available as standard with corrugated tube or New Flex Style (Optional)

P/N A740746-MOT Equivalent to:
WAUKESHA® P/N A740746, 740746D

Optional:
P/N 95.01.107-24 New Flex Style



P/N 740746B-MOT Equivalent to:
WAUKESHA® P/N 740746B



■ Spark Plug Leads & Extensions

Spark Plug Leads for WAUKESHA® VHP Series Gas Engines

The spark plug leads installed by engine manufacturers are not always the best choice when it comes to longevity and trouble-free operation of the engine. Especially for use on WAUKESHA® VHP series gas engines, MOTORTECH offers suitable spark plug leads for easy replacement of original parts and as an upgrade for every engine. These spark plug leads offer several advantages when being compared to the OEM or aftermarket competition and solve the problems faced by plant operators on regular basis.

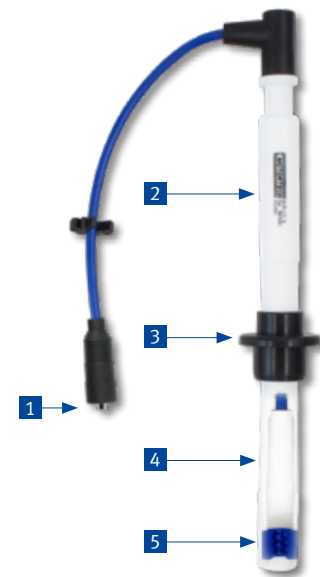
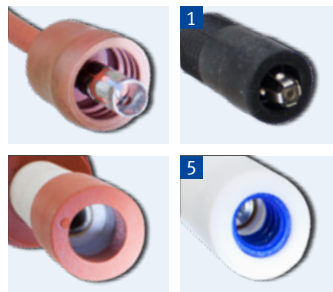
General Features

- Rigid design
- Insulators made of high quality Teflon®
- Reliable ignition coil and spark plug terminals
- Critical high voltage areas are protected with seals
- Designed to match the engine model, the spark plug type and application
- Long life product



WAUKESHA®
P/N 211357H

MOTORTECH
P/N 06.85.422-16



Spark Plug Lead for WAUKESHA® VHP Series – Comparison

- 1 The ignition coil connector features four contact springs which lead to a more reliable connection. The resistant silicone boot improves the protection against flashovers as well as the stability of the connection with the ignition coil.
- 2 Much longer and thicker insulator is made of high quality Teflon® for highest dielectric strength.
- 3 Silicone boot with excellent temperature and aging characteristics for wire output and spark plug well sealing. Height-adjustable to compensate length differences of spark plug insulators.
- 4 Ceramic insert with 5 kΩ resistor for EMI suppression and reliable terminal for best spark plug connection.
- 5 Integrated silicone seal ring for best flashover protection will not stick on the spark plug insulator when pulling off the Teflon® insulator.

■ Spark Plug Leads & Extensions



Spark Plug Leads

■ PolyMot™ spark plug lead

- Spark plug insulator made of Teflon®
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Fits spark plug P/N 60999F, B8124, GT3-1, RM77N e.g.
- Fits ignition coil P/N 69694B, 69694, 591010, 501061, 06.50.054, 06.50.055 e.g.
- For VHP GL series



P/N 06.85.423-16

■ PolyMot™ spark plug lead

- Spark plug insulator made of Teflon®
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Fits spark plug P/N 60999F, B8124, GT3-1, RM77N e.g.
- Fits ignition coil P/N 69694C, 69694A, 501061-S, 591010-S, 95.09.054, 95.09.055 e.g.
- For VHP GL series

P/N 06.85.649-16

■ PolyMot™ spark plug lead

- Spark plug insulator made of Teflon®
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Fits spark plug P/N 60999F, B8124, GT3-1, RM77N e.g.
- Fits ignition coil P/N 69694B, 69694, 591010, 501061, 06.50.054, 06.50.055 e.g.
- For VHP GL series

P/N 06.85.739-16

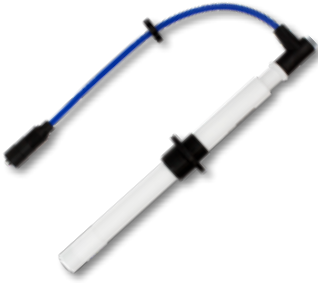
■ PolyMot™ spark plug lead

- Spark plug insulator made of Teflon®
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Fits spark plug P/N D14, D14N e.g.
- Fits ignition coil P/N 69694B, 69694, 591010, 501061, 06.50.054, 06.50.055 e.g.
- For VHP GU series

P/N 06.85.993-24

■ Spark Plug Leads & Extensions

Spark Plug Leads



■ PolyMot™ spark plug lead

- Spark plug insulator made of Teflon®
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Fits spark plug P/N 60999Z, B8324, B8124, GT3-1, RM77N e.g.
- Fits ignition coil P/N 69694B, 69694, 591010, 501061, 06.50.054, 06.50.055 e.g.
- For VHP GU/GSI series

P/N 06.85.688-16

■ PolyMot™ spark plug lead

- Spark plug insulator made of Teflon®
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Fits spark plug P/N 60999Z, B8324, B8124, GT3-1, RM77N e.g.
- Fits ignition coil P/N 69694B, 69694, 591010, 501061, 06.50.054, 06.50.055 e.g.
- For VHP G/GU/GSI series

Equivalent to:

P/N 06.85.422-16 WAUKESHA® P/N 211357H

■ PolyMot™ spark plug lead

- Spark plug insulator made of Teflon®
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Fits spark plug P/N 60999Z, B8324, B8124, GT3-1, RM77N e.g.
- Fits ignition coil P/N 69694C, 69694A, 501061-S, 591010-S, 95.09.054, 95.09.055 e.g.
- For VHP G/GU/GSI series

P/N 06.85.672H-22

■ PolyMot™ spark plug lead

- Spark plug insulator made of Teflon®
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Fits spark plug P/N 60999Z, B8324, B8124, GT3-1, RM77N e.g.
- Fits ignition coil P/N 69694B, 69694, 591010, 501061, 06.50.054, 06.50.055 e.g.
- For VHP GU/GSI series

P/N 06.85.705-16

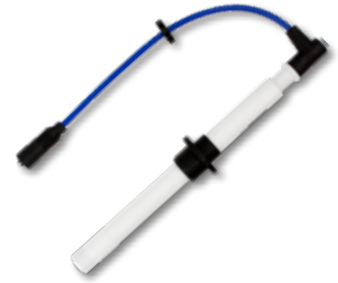
■ Spark Plug Leads & Extensions



Spark Plug Leads

■ PolyMot™ spark plug lead

- Spark plug insulator made of Teflon®
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Fits spark plug P/N M82N e.g.
- Fits ignition coil P/N 69694B, 69694, 591010, 501061, 06.50.054, 06.50.055 e.g.
- For VHP GU/GSI series



P/N 06.85.699-16

■ PolyMot™ spark plug lead

- Spark plug insulator made of Teflon®
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Fits spark plug P/N 60999Z, B8324, GI3-3 e.g.
- Fits ignition coil P/N 69694B, 69694, 591010, 501061, 06.50.054, 06.50.055 e.g.
- For VHP Series Four

P/N 06.85.848-16

■ PolyMot™ spark plug lead

- Spark plug insulator made of Teflon®
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Fits spark plug P/N 60999Z, B8324, GI3-3 e.g.
- Fits ignition coil P/N 69694B, 69694, 591010, 501061, 06.50.054, 06.50.055 e.g.
- For VHP series conversions from flange ignition coil to externally mounted ignition coil

P/N 06.85.714-24

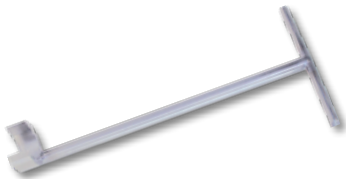
■ Spark Plug Leads & Extensions

Accessories for Spark Plug Leads



- **Flange kit for use with PolyMot™ spark plug leads**
- Used for conversions of flange ignition coil and spark plug extension to externally mounted ignition coil and spark plug lead
- Kit includes metal flange and gasket for sealing

P/N 06.51.248



- **Installation tool for spark plug lead grommets**
- With this tool, the grommets installed on PolyMot™ spark plug leads can be pushed into correct position in order to close the spark plug well and provide optimal sealing.

P/N 07.99.019



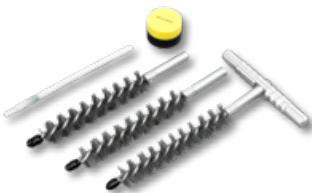
- **Silicone seal rings**
- For PolyMot™ spark plug leads
- Pack of 100 pcs



Fits Spark Plug Lead:

P/N 06.84.040-100 MOTORTECH P/N 06.85.422-16, 06.85.423-16,
06.85.649-16, 06.85.672H-22,
06.85.688-16, 06.85.699-16,
06.85.705-16, 06.85.714-24,
06.85.739-16, 06.85.848-16

P/N 06.84.077-100 MOTORTECH P/N 06.85.993-24



- **Brush Kit to clean termination wells**
- For use with ignition coils, spark plug leads and extensions or extended barrel spark plugs
- Easy to use tool cleans away dirt and corrosion safely
- Helps to increase component service life
- Bristles are of nylon impregnated with silicone to clean without scratching or removing any Teflon®

P/N 07.98.075

■ Spark Plug Leads & Extensions



Shielded Spark Plug Leads

- **MOT-Blues shielded spark plug lead**
- For use with MOTORTECH XT spark plug P/N S2B832BEX10
- 3/4-20 UNEF spark plug termination (180°)
- 1-20 UNEF ignition coil termination (180°)
- 24 in shielded cable length
- Fits ignition coil P/N 95.09.054 and 95.09.055 e.g.

P/N 95.90.030-24



■ Spark Plug Leads & Extensions

Spark Plug Extensions



- **PolyMot™ spark plug extension**
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Critical high voltage areas are protected with seals
- Top thread for easy removal with special tool P/N 44.99.912
- Fits spark plug P/N 60999Z, B8324, GI3-3 e.g.
- For VHP GL series

P/N 06.80.321-T

Equivalent to:

WAUKESHA® P/N 211357P, 211357U,
A211797H, A211797P,
A211797R
BG® P/N 25080-05, 25080-12,
26400-01, 26510-01



- **PolyMot™ spark plug extension**
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Critical high voltage areas are protected with seals
- Top thread for easy removal with special tool P/N 44.99.912
- Fits spark plug P/N 60999Z, B8324, GI3-3 e.g.
- For VHP Series Four

P/N 06.80.340-T

Equivalent to:

WAUKESHA® P/N 211797A, A211797G
BG® P/N 25080-06, 26510-06

■ Spark Plug Leads & Extensions



Accessories for Spark Plug Extensions

■ Spark plug extension removal tool

- Fits extension top thread to ensure easy removal

P/N 44.99.912 Equivalent to:
WAUKESHA® P/N 474053



■ Silicone seal rings

- For PolyMot™ spark plug extensions
- For sealing of spark plug insulator
- Pack of 100 pcs

P/N 06.84.040-100 Equivalent to:
WAUKESHA® P/N 740011A
Fits Spark Plug Extension
MOTORTECH P/N 06.80.321-T,
06.80.340-T



■ Silicone seal rings

- For PolyMot™ spark plug extensions
- For sealing of ignition coil secondary terminal
- Pack of 100 pcs

P/N 06.81.138-100 Equivalent to:
WAUKESHA® P/N 296178A
Fits Spark Plug Extension
MOTORTECH P/N 06.80.321-T,
06.80.340-T



■ Spark Plug Leads & Extensions

Extensions for Integral Ignition Coils to Shielded Spark Plugs



■ Integral ignition coil extension

- 3/4-20 UNEF spark plug connection, 1 in termination well depth
- 1-20 UNEF ignition coil connection, 2 in terminaten well depth

P/N 95.07.011-3

Equivalent to:

WAUKESHA® P/N	69772H
ALTRONIC® P/N	593120-3
BG® P/N	M28-2C, M28-2T

P/N 95.07.011-6

Fits Spark Plug Extension

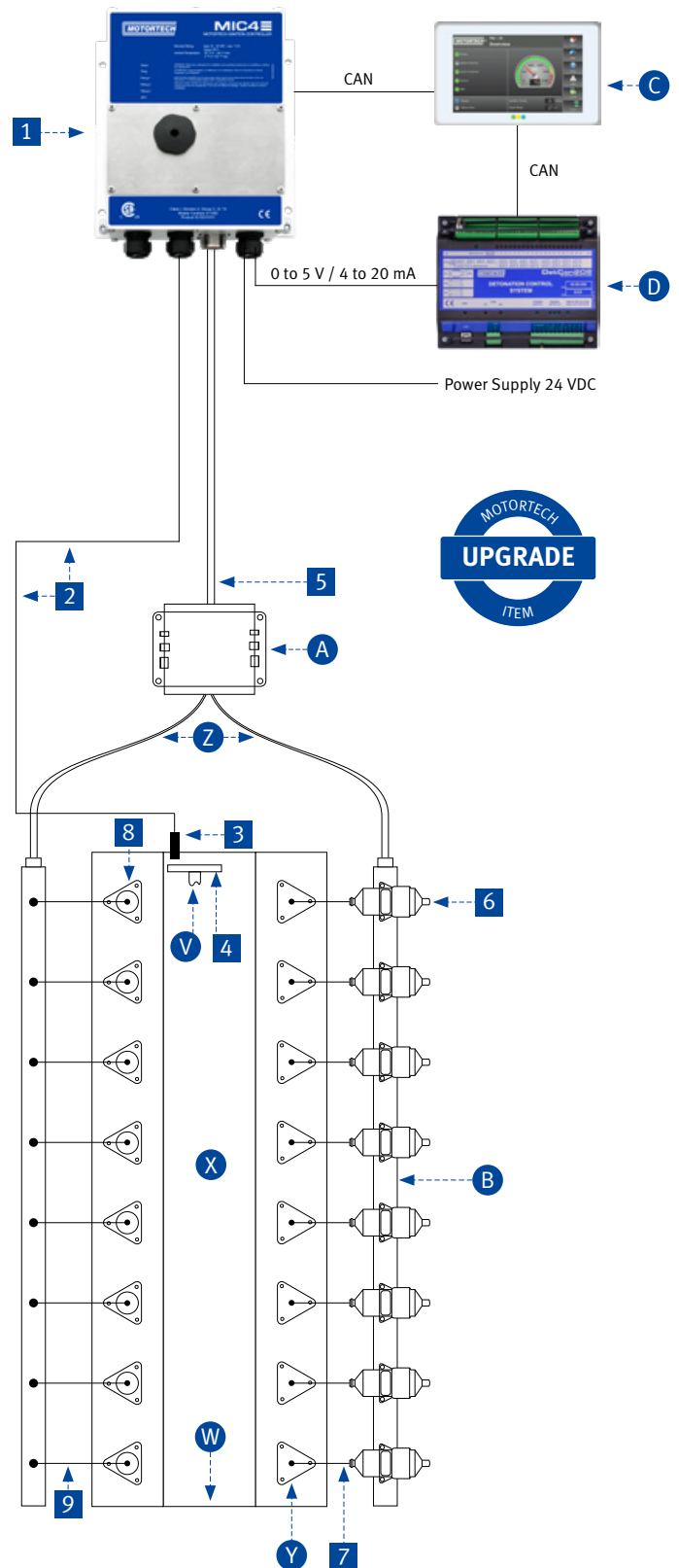
WAUKESHA® P/N	69772A
ALTRONIC® P/N	593120-5
BG® P/N	M68-2C, M68-2T

Ignition Wiring Rails & Hardware

Ignition Control Upgrade for WAUKESHA® VHP Series Gas Engines

MOTORTECH offers complete ignition system upgrades for WAUKESHA® VHP series gas engines. Prefabricated and prewired components make the conversion easier and reduce costs based on engine downtime. Please consult the factory or your nearest MOTORTECH Sales Partner to get a complete unshielded or shielded system solution specified for your engine application.

Upgrade your engine to the latest ignition system and increase reliability and efficiency.



Necessary Components

- 1 MIC4 ignition controller
- 2 Pickup lead*
- 3 1 Hall effect pickup*
- 4 Trigger disc
- 5 Output harness*
- 6 Ignition coil*
- 7 1 Primary lead/PolyMot™ spark plug lead per ignition coil*

Accessories

- A Junction box
- B AlphaRail ignition wiring rail

System Enhancement

- C PowerView3 – HMI module
- D DetCon20 – Detonation controller

Description

- V Camshaft
- W Crankshaft
- X Engine
- Y Cylinder
- Z Harness to connect the ignition wiring rails and the junction box

* Shielded and unshielded versions available.

1-Pickup Arrangement for 4-Stroke Engines

- 1) Camshaft (N+1/N-1)
Hall effect pickup
(disc with magnets)

■ Ignition Wiring Rails & Hardware



1 MIC4 Ignition Controller

Efficiency-enhanced engines, stricter emission regulations, highly compressed mixtures, as well as the use of a great variety of gas types are putting even greater demands on the entire ignition system. Based on the MOTORTECH ignition controller platform, the MIC4 series fulfills these greater demands.

With 300 mJ primary energy, the MIC4 series provides a reliable combustion on engines up to 16 cylinders even with weakest or fluctuating caloric values of the gas. Next to high variable ignition energy (MOST) an accurate spark timing and diversified online diagnostics help to improve engine efficiency, spark plug life and availability of the equipment under the strictest emission regulations.

- Adjustable spark duration and intensity
- Constant spark intensity via adjusted duration
- Patented technology
- 300 mJ primary energy (500 mJ boost for start phase)
- Ignition diagnostics (primary and secondary)
- Fault memory with trend data
- Integrated CANopen and Modbus RTU interface
- Easy access per USB port



3 Hall Effect Pickup

High temperature resistant pickup. Triggers off any magnet. Available in standard or CSA certified versions and both possible polarities.



6 Ignition coils

Special ignition coils are designed for use with latest technologies of MOTORTECH ignition controllers. Different designs are available either for direct rail mounting in combination with spark plug leads or as flange ignition coil to allow installation directly on the valve cover. Flange ignition coils are also available as version with diagnostic interface. This enables the possibility to measure the high voltage via MOTORTECH SparkView or digital oscilloscope.



■ Ignition Wiring Rails & Hardware



7 Primary Leads

MOTORTECH primary leads are available as Conventional Style or in New Flex Style that is produced with a special multilayer wire. The new primary leads offer a significant higher flexibility than conventional leads, shielded with braided steel, while being highly resistant to all kinds of environmental conditions. Primary leads are available with rigid terminations in several different configurations with durable 90° and 180° 2-pole and 3-pole connectors.



7 Spark Plug Leads

MOTORTECH PolyMot™ spark plug leads are unique and offer several advantages when being compared to the OEM or aftermarket competition. Made from a combination of ceramic, Teflon® and silicone they transfer nearly any rate of high energy spark from the coil to the spark plug. The unique structure has achieved tremendous reliability records in the field.

B AlphaRail Wiring Rail System for Ignition Control

MOTORTECH stainless steel, vibration resistant rail assembly will withstand any harsh environment commonly found in the oil & gas industry. The proven design is made for engine manufacturers and the global aftermarket. Do not go Low-Tech and take the risk of engine down time because of equipment being under repair. Eliminate the need for constant rewiring, connector exchanges or straightening out weak and bent aluminum wiring rails.



- Made of stainless steel
- Rigid military style connectors
- Rails are filled with special foam to ensure that all wires are separated from ground and will not vibrate
- Water proof design – built to last in uncovered environment
- Ignition rails can be used for shielded and unshielded applications
- Due to base rail structure easy for stocking
- Quick service access with quick-disconnect connections

■ Ignition Wiring Rails & Hardware



● PowerView3 Ignition Control Visualization

The operating data of the MIC4 ignition controller will be completely visualized via HMI module (Human Machine Interface). The overview screen shows the relevant information as engine speed, ignition timing and status of pickups, ignition outputs or active parameter set.

The PowerView3 also allows justification of various ignition parameters such as ignition timing and energy. Functions as the self-test for error diagnostics can also be executed via HMI module. The control keys guarantee simple navigation through different display pages and menus. All in all the PowerView3 HMI module is also able to provide error diagnostics on-site without requiring a laptop!



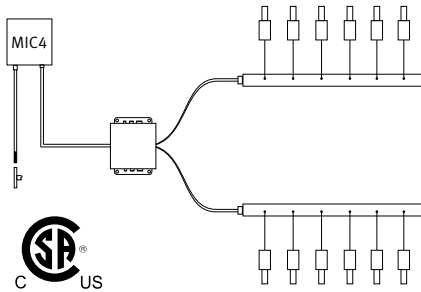
● DetCon20 Detonation Control System

The DetCon20 control unit offers full protection for gas engines from 2 to 20 cylinders. Microprocessor controlled, it will detect any detonation in the early stage. Please also see page 52 for further information.



Ignition Wiring Rails & Hardware

Upgrade Kits for WAUKESHA® VHP G/GU/GSI 12 Cylinder Gas Engines

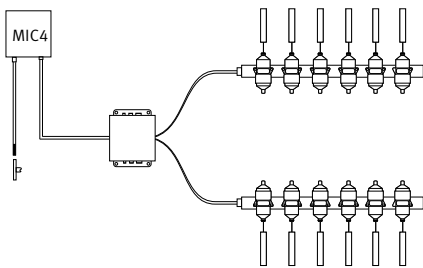


■ Shielded ignition control upgrade kit for WAUKESHA® VHP G/GU/GSI 12 cylinder engines

Contains:

- MIC4 series ignition controller
- 1 pickup arrangement (Hall effect) incl. shielded pickup leads, trigger disc and hub
- Output wiring and junction box with fittings to connect ignition controller and wiring rails
- AlphaRail wiring rails with hardware kit
- High energy integral ignition coils
- New Flex Style primary leads for connection of wiring rails and integral ignition coils

P/N 95.75.120-12



■ Unshielded ignition control upgrade kit for WAUKESHA® VHP G/GU/GSI 12 cylinder engines

Contains:

- MIC4 series ignition controller
- 1 pickup arrangement (Hall effect) incl. pickup leads, trigger disc and hub
- Output wiring and junction box with fittings to connect ignition controller and wiring rails
- AlphaRail wiring rails with hardware kit
- High energy integral ignition coils
- Primary lead and mounting kits for connection of wiring rails and ignition coils
- PolyMot™ spark plug leads

P/N 77.75.120-12

Ignition Wiring Rails & Hardware

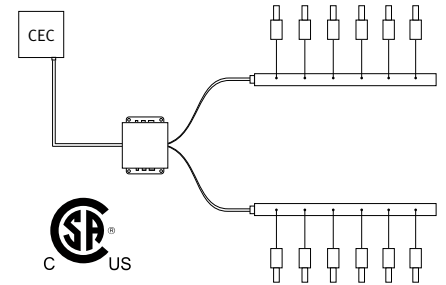


Upgrade Kits for WAUKESHA® VHP G/GU/GSI 12 Cylinder Gas Engines

- **Shielded ignition control upgrade kit for WAUKESHA® VHP G/GU/GSI 12 cylinder engines**
- **For use with existing WAUKESHA® CEC ignition controller**

Contains:

- Output wiring and junction box with fittings to connect CEC ignition controller and wiring rails
- AlphaRail wiring rails with hardware kit
- Integral ignition coils to work with CEC Spark Reference System
- New Flex Style primary leads for connection of wiring rails and integral ignition coils

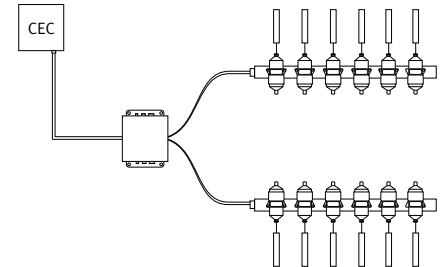


P/N 95.75.121-12

- **Unshielded ignition control upgrade kit for WAUKESHA® VHP G/GU/GSI 12 cylinder engines**

Contains:

- MIC4 series ignition controller
- 1 pickup arrangement (Hall effect) incl. pickup leads, trigger disc and hub
- Output wiring and junction box with fittings to connect ignition controller and wiring rails
- AlphaRail wiring rails with hardware kit
- High energy integral ignition coils
- Primary lead and mounting kits for connection of wiring rails and ignition coils
- PolyMot™ spark plug leads



P/N 77.75.120-12

- **Ignition wiring rail kit for 12 Cylinder WAUKESHA® VHP ESM Series Gas Engines**

Contains:

- AlphaRail wiring rails and mounting brackets
- Connecting harness assembly, ESM to wiring rails
- New Flex Style shielded primary leads for AlphaRail

P/N 95.75.048-B WAUKESHA® P/N 740283



Scan QR Code®

Ignition Tools & Test Equipment

Ignition Tools & Test Equipment



Scan QR Code®

- **SparkView high voltage indicator incl. SparkScan1 high voltage clamp or BNC cable**
- For use spark plug leads (requires SparkScan1 high voltage clamp)
- For use with flange ignition coils with diagnostic interface (requires BNC cable)

Quick and comfortable monitoring on a running engine makes it possible to detect:

- Wear of spark plugs
- Failure of the ignition system (damaged ignition coil, spark plug lead or ignition controller)
- Faulty compression of a cylinder

P/N 06.90.099-100 For use with spark plug leads (incl. SparkScan1 high voltage clamp)

P/N 06.90.099-105 For use with flange ignition coils with diagnostic interface (incl. BNC cable)



■ SparkScan1 high voltage clamp

- Attached to a conventional ignition cable (7 mm) and connected to a Scope Meter, the operator can analyse the ignition trace
- Allows preventive maintenance of the equipment by measuring high voltage peak (kV) and spark duration (μ sec) of all cylinders of an engine in a routine manner
- 2.0 m/7.0 ft length

P/N 06.90.099-100



■ Digital Scope Meter

- Compact 20 MHz or 40 MHz two channel scope
- Ideal for troubleshooting of industrial machinery, instrumentation, control and power systems

P/N 06.98.005-110 Digital scope meter, 110 V

P/N 06.98.005-220 Digital scope meter, 220 V



■ BNC Cable

- For use with SparkView or Digital Scope Meter
- 2.0 m/7.0 ft length

P/N 06.90.105

Ignition Tools & Test Equipment



Ignition Tools & Test Equipment

■ Ignition coil tester

- Professional tool to test all different kinds of ignition coils
- Built in CD ignition, high voltage clamp and a spark gap allow realistic testing
- Incl. standard adaptor kits for commonly used ignition coils on WAUKESHA VHP series gas engines

P/N 06.98.054



Scan QR Code®

■ ScopeLite timing light

- Timing light is self-powered and designed to work with fully shielded ignition systems
- The special clamp picks up the small trigger signal through the braid of shielded spark plug leads
- Can be attached directly to the BNC connector of MOTORTECH ignition coils with diagnostic interface
- Even on applications with integral or standard flange ignition coils, the clamp can be attached to a shielded primary lead

P/N 06.98.100-200 ScopeLite timing light with LEDs, incl. clamp, 200 in standard connecting lead and carrying case

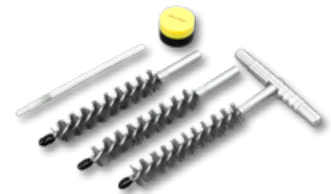


Scan QR Code®

■ Brush Kit to clean Termination Wells

- For use with ignition coils, spark plug leads and extensions or extended barrel spark plugs
- Easy to use tool cleans away dirt and corrosion safely
- Helps to increase component service life
- Bristles are of nylon impregnated with silicone to clean without scratching or removing any Teflon®

P/N 07.98.075



■ Spark Plugs & Accessories

Spark Plugs (M18x1.5 Thread Size - 0.500 in Thread Reach)



- **CHAMPION® spark plug**
- N-type electrode (Cu-Ni/Ni)
- HEX 7/8 in (22.2 mm)
- Recommended for natural gas
- For VHP series (0.500 in reach heads)

P/N RM77N

Equivalent to:

WAUKESHA® P/N 60999F



- **CHAMPION® spark plug**
- J-type electrode (Pt/Pt)
- HEX 7/8 in (22.2 mm)
- Recommended for natural gas

P/N RM77PP

Optional to P/N RM77N & RM77PP



- **MOTORTECH MHP spark plug**
- J-type electrode (Ir/Ir)
- HEX 13/16 in (20.8 mm)
- Recommended for natural/special gas

P/N B8124

Optional to P/N RM77N & RM77PP



- **DENSO® spark plug**
- J-type electrode (Ir/Pt)
- HEX 7/8 in (22.2 mm)
- Recommended for natural/special gas

P/N GT3-1

■ Spark Plugs & Accessories



Spark Plugs (M18x1.5 Thread Size - 0.500 in Thread Reach)

■ CHAMPION® spark plug - for use with integral ignition coils

- N-type electrode (Cu-Ni/Ni)
- HEX 1 in (25.4 mm)
- 13/16-20 UNEF thread for integral ignition coil
- Recommended for natural gas
- For VHP series (0.500 in reach heads)

P/N RTM77N

Equivalent to:

WAUKESHA® P/N 60999G



■ CHAMPION® spark plug - for use with integral ignition coils

- J-type electrode (Pt/Pt)
- HEX 7/8 in (22.2 mm)
- 13/16-20 UNEF thread for integral ignition coil
- Recommended for natural gas

P/N RTM77PP



Optional to P/N RTM77N & RTM77PP

■ MOTORTECH ICP spark plug - for use with integral ignition coils

- J-type electrode (Ir/Ir)
- HEX 15/16 in (23.8 mm)
- 13/16-20 UNEF thread for integral ignition coil
- Recommended for natural/special gas

P/N ICPB812



■ Spark Plugs & Accessories

Spark Plugs (M18x1.5 Thread Size - 0.750 in Thread Reach)



- **CHAMPION® spark plug**
- J-Type electrode (Ir/Pt)
- HEX 7/8 in (22.2 mm)
- Recommended for natural gas
- For VHP series (0.750 reach heads)

P/N FB77WPCC

Equivalent to:

WAUKESHA® P/N

60999Z

CHAMPION® P/N

RB77WPCC, KB77WPCC



- **DENSO® spark plug**
- J-type electrode (Ir/Pt)
- HEX 7/8 in (22.2 mm)
- Recommended for natural gas

P/N GI3-4

Optional to FB77WPCC & GI3-4



- **MOTORTECH MHP spark plug**
- J-type electrode (Ir/Ir)
- HEX 13/16 in (20.8 mm)
- Recommended for natural/special gas

P/N B8324

Optional to P/N FB77WPCC



- **DENSO® spark plug**
- J-type electrode (Ir/Pt)
- HEX 7/8 in (22.2 mm)
- Recommended for natural

P/N GI3-3

Optional to P/N FB77WPCC



- **DENSO® spark plug**
- J-type electrode (Ir/Ir)
- HEX 7/8 in (22.2 mm)
- Recommended for natural/special gas

P/N GI3-5

■ Spark Plugs & Accessories



Spark Plugs (M18x1.5 Thread Size - 0.750 in Thread Reach)

- **CHAMPION® spark plug - for use with integral ignition coils**
- J-type electrode (Ir/Pt)
- HEX 7/8 in (22.2 mm)
- 13/16-20 UNEF thread for integral ignition coil
- Recommended for natural gas
- For VHP series (0.750 reach heads)



P/N RTB77WPCC

Optional to RTB77WPCC

- **MOTORTECH ICP spark plug – for use with integral ignition coils**
- J-type electrode (Ir/Ir)
- HEX 15/16 in (23.8 mm)
- 13/16-20 UNEF thread for integral ignition coil
- Recommended for natural/special gas



P/N ICPB832

- **MOTORTECH XT spark plug - for use with shielded spark plug leads**
- J-type electrode (Ir/Ir)
- HEX 7/8 in (22.2 mm)
- 3/4-20 UNEF thread for shielded spark plug lead (MOT-Blues/Conventional)
- 10 in barrel length
- Recommended for natural/special gas



P/N S2B832BEX10

Optional to P/N S2B832BEX10

- **MOTORTECH XTL spark plug with integrated spark plug lead**
- **CSA approved for Class I, Division 2, Group D**
- J-type electrode (Ir/Ir)
- HEX 29 mm
- 10 in barrel length
- 24 in shielded cable length
- Ignition coil connector to fit P/N 95.09.054 and 95.09.055
- Recommended for natural/special gas



P/N IB832BEX10-B245A

■ Spark Plugs & Accessories



Tools

■ Spark plug gap setting tool

- For easy setting of spark plug gaps
- Basic kit includes M14x1.25 or M18x1.5 thread adaptor
- Required accessory kit needs to be ordered separately

P/N 07.98.120-18

Fits Spark Plugs with Thread Size
M18x1.5



■ Accessory kit for J-type spark plugs

- Including base insert and feeler gauge

P/N 07.98.122-A

■ Accessory kit for N-type spark plugs

- Including base insert, expanding pin, compressing pins (0.012 in./0.30 mm, 0.015 in./0.38 mm and 0.020 in./0.51 mm)

P/N 07.98.122-A



Scan QR Code®



P/N 07.98.037

- Feeler gauge clamp

P/N 07.98.059

- Feeler gauge, gap 0.008 in./0.20 mm

P/N 07.98.034

- Feeler gauge, gap 0.010 in./0.25 mm

P/N 07.98.035

- Feeler gauge, gap 0.012 in./0.30 mm

P/N 07.98.036

- Feeler gauge, gap 0.014 in./0.35 mm



■ Spark plug cleaning kit

- Removes oil residues and deposits in the electrode area by high pressure
- Special blasting grit for gentle cleaning of the electrode and thread area
- Only for use with spark plugs without pre-chamber

P/N 44.01.023



Scan QR Code®

■ Spark Plugs & Accessories



Tools

■ Extended barrel magnetic spark plug sockets

- 1/2 in drive

P/N 07.99.022-4-18 HEX 13/16 in
(20.8 mm) Fits Spark Plug
B8124, B8324,

P/N 07.99.022-3-18 HEX 7/8 in
(22.2 mm) Fits Spark Plug
RM77N, 60999F, GT3-1,
RTM77PP, FB77WPCC,
60999Z, RB77WPCC,
KB77WPCC, GI3-3, GI3-4
GI3-5, RTB77WPCC, 'S2B832BEX10

P/N 07.99.022-2-18 HEX 15/16 in
(23.8 mm) Fits Spark Plug
ICPB812, ICPB832

P/N 07.99.022-1-18 HEX 1 in
(25.4 mm) Fits Spark Plug
RTM77N, 60999G



■ Torque wrench

- 1/2 in drive

P/N 07.98.065



■ Seat & thread reconditioner

- Cleans cylinder head threads and seal seats in one operation
- M18x1.5 thread size
- 12 in barrel length
- 1/2 in drive

P/N 07.98.118-12-BEX12 Thread reach
1/2 in
P/N 07.98.118-34-BEX12 3/4 in



■ Spark Plugs & Accessories

Tools



- **Extended Barrel Thread Plug Gauge – Go/No-Go**
- Inspection tool to check whether the actual dimension of the thread is within the tolerance or whether it needs to be reworked
- 15 in barrel length

P/N 07.98.070-18

Thread reach
M18x1.5



- **Extended Barrel Thread Cutting Taps**
- For recutting of worn threads
- 12 in barrel length
- 1/2 in drive

P/N 07.98.067-BEX12

Thread size
M18x1.5



- **SparkView high voltage indicator incl. SparkScan1 high voltage clamp or BNC cable**
- For use spark plug leads (requires SparkScan1 high voltage clamp)
- For use with flange ignition coils with diagnostic interface (requires BNC cable)

Quick and comfortable monitoring on a running engine makes it possible to detect:

- Wear of spark plugs
- Failure of the ignition system
(damaged ignition coil, spark plug lead or ignition controller)
- Faulty compression of a cylinder

P/N 06.90.099-100 For use with spark plug leads
(incl. SparkScan1 high voltage clamp)

P/N 06.90.099-105 For use with flange ignition coils with
diagnostic interface (incl. BNC cable)



Scan QR Code®

■ Spark Plugs & Accessories



Accessories

- **Spark plug gaskets**
- For M18x1.5 thread size
- Pack of 100 pcs

P/N 02.85.016-100

- **Gaskets for integral ignition coil spark plugs**
- Copper
- Pack of 100 pcs

P/N 75.90.295-100

- **Thread lubricant**
- Can 4 oz / 115 g

P/N 07.98.718



Gas Engine Control Systems

Detonation Control Upgrade for WAUKESHA® VHP Series Gas Engines

Next to the ignition system, MOTORTECH also offers complete system upgrades for detonation control. Prefabricated and prewired components make the conversion easier and reduce costs based on engine downtime. Please consult the factory or your nearest MOTORTECH Sales Partner to get a complete system solution specified for your engine application.

Upgrade your engine and increase availability of the equipment!

Necessary Components

- 1 DetCon20 control unit*
- 2 Detonation sensor lead
- 3 Detonation sensor

Accessories

- A AlphaRail detonation wiring rail

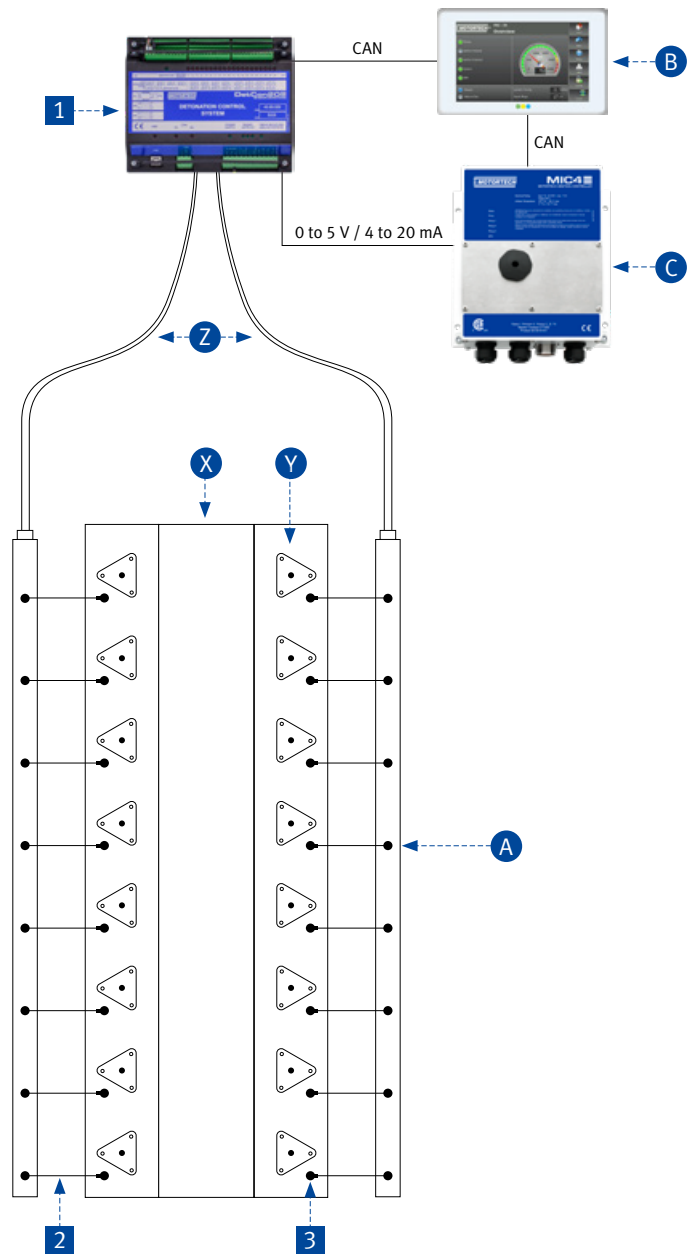
System Enhancement

- B PowerView3 – HMI module
- C MIC4 – Ignition controller

Description

- X Engine
- Y Cylinder
- Z Harness to connect the detonation wiring rails and the control unit

* Shielded and unshielded versions available.



Gas Engine Control Systems

1 DetCon20 Control Unit

The gas engine operators are calling for increased power output from their engines. More load means higher temperatures, pressures and tougher operation. This mostly ends in catastrophic engine damages due to detonation or pre-ignition.

As MOTORTECH has proven for years, detonation can be detected professionally with the DetCon20. Single cylinder sensors constantly monitor the sound level of the combustion chamber. Once the controller detects soft detonation on one of the sensors (this is a specific stage before real detonation occurs), several steps will take place:

- Alarm signal turns on
- Ignition retard by 0 to 5 V or 4 to 20 mA analog output
- If this action does not cure the detonation, the load reduction output will be activated.
- If the load drop does not stop the engine from detonating the engine STOP output will be activated.



3 Detonation Sensor

Can be installed on the cylinder head screw. Measures the detonation signal and transfers it to the controller.



A AlphaRail Wiring Rail System for Detonation Control

MOTORTECH stainless steel, vibration resistant rail assembly will withstand any harsh environment commonly found in the oil & gas industry. The proven design is made for engine manufacturers and the global aftermarket. Do not go Low-Tech and take the risk of engine down time because of equipment being under repair. Eliminate the need for constant rewiring, connector exchanges or straightening out weak and bent aluminum wiring rails.

- Made of stainless steel
- Rigid military style connectors
- Rails are filled with special foam to ensure that all wires are separated from ground and will not vibrate
- Water proof design – built to last in uncovered environment
- Ignition rails can be used for shielded and unshielded applications.
- Due to base rail structure easy for stocking
- Quick service access with quick-disconnect connections



B PowerView3 Detonation Control Visualization

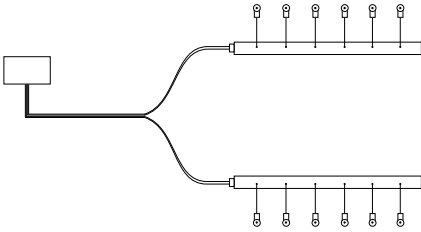
The operating data of the DetCon Detonation Control system will be completely visualized via HMI module (Human Machine Interface). The overview screen shows the relevant information as engine knocking, knock intensity and status for activated load reduction or emergency shutdown of engine.

The control keys guarantee simple navigation through the different display pages and menus. All in all the PowerView3 HMI module is also able to provide error diagnostics on-site without requiring a laptop!



■ Gas Engine Control Systems

Upgrade Kits for WAUKESHA® VHP G/GU/GSI/GL 12 Cylinder Gas Engines



■ Detonation control upgrade kit for WAUKESHA® VHP G/GU/GSI/GL 12 cylinder engines

■ For use in hazardous and non-hazardous environments

Contains:

- DetCon20 detonation controller with 20 inputs
- Harnesses to connect detonation controller and wiring rails
- AlphaRail wiring rails with hardware kit
- Leads for connection of wiring rails and detonation sensors
- Detonation sensors to monitor each cylinder individually

P/N 43.00.421-12



Scan QR Code®



■ Cylinder head screw WAUKESHA® P/N 169994B

- Prepared, incl. mounting screw for detonation sensor

P/N 169994B-DS

Throttle Bodies

- **Throttle bodies for WAUKESHA® VHP G/ GSI/ LT 6 and 12 cylinder engines**
- Same design and shape for easy replacement of original part
- Reinforced shaft and butterfly valve made of stainless steel for high durability
- Use of ball bearings instead of plain bearings
- Including end stop and idle speed adjustment
- Lever for connection to the external actuator or integrated stepper motor
- Maintenance free product

- **Throttle body for WAUKESHA® VHP 6 cylinder in-line engines**

- For F2895G/GSI, F3521G/GSI

Equivalent to:

P/N 30.41.151-106-VHP-6 WAUKESHA® P/N E204072

Optional to P/N 30.41.151-106-VHP-6

- **ITB throttle body conversion kit for WAUKESHA® VHP 6 cylinder in-line engines**
- For F2895G/GSI, F3521G/GSI

Contains:

- ITB throttle body P/N 30.43.151-106-VHP-6 (1 pc)
- Stepper motor harness P/N 31.01.942 (1 pc)
- VariStep3 stepper motor driver P/N 31.01.960 (1 pc)

P/N 75.30.148-6

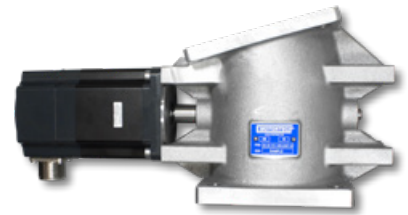
Optional to P/N 30.41.151-106-VHP-6

- **ITB throttle body conversion kit for WAUKESHA® VHP 6 cylinder in-line engines**
- For F2895G/GSI, F3521G/GSI

Contains:

- ITB throttle body P/N 30.43.151-106-VHP-6 (1 pc)
- Stepper motor harness P/N 31.01.942 (1 pc)
- VariStep3 stepper motor driver P/N 31.01.960 (1 pc)
built into stainless steel enclosure

P/N 75.30.149-6



Scan QR Code®

Gas Engine Control Systems

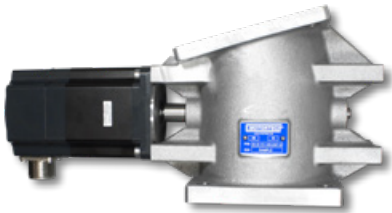
Throttle Bodies



- **Throttle body for WAUKESHA® VHP 12 cylinder V-engines**
- For L5108G/GSI, L5790G/GSI, L5774LT, L5794GSI, L7042G/GSI, L7044GSI
- Fits left and right bank

P/N 30.41.151-106-VHP-12 Equivalent to:
WAUKESHA® P/N E204072,
A204072,
E204072A,
A204072A,
F204072A

Optional to P/N 30.41.151-106-VHP-12



- **ITB throttle body conversion kit for WAUKESHA® VHP 12 cylinder V-engines**
- For L5108G/GSI, L5790G/GSI, L5774LT, L5794GSI, L7042G/GSI, L7044GSI

Contains:

- ITB throttle body P/N 30.43.151-106-VHP-12, fits left and right bank (2 pcs)
- Stepper motor harness P/N 31.01.942 (2 pcs)
- VariStep3 stepper motor driver P/N 31.01.960 (2 pcs)
- Isolation amplifier P/N 63.02.017 (1 pc)

P/N 75.30.148-12

Optional to P/N 30.41.151-106-VHP-12

- **ITB throttle body conversion kit for WAUKESHA® VHP 12 cylinder V-engines**
- For L5108G/GSI, L5790G/GSI, L5774LT, L5794GSI, L7042G/GSI, L7044GSI

Contains:

- ITB throttle body P/N 30.43.151-106-VHP-12, fits left and right bank (2 pcs)
- Stepper motor harness P/N 31.01.942 (2 pcs)
- VariStep3 stepper motor driver P/N 31.01.960 (2 pcs)
- Isolation amplifier P/N 63.02.017 (1 pc)
- Stepper motor drivers and isolation amplifier pre wired and built into stainless steel enclosure

P/N 75.30.149-12



Consult factory for availability of throttle bodies for **WAUKESHA® VHP GL Series Engines.**



Scan QR Code®

■ Gas Engine Control Systems

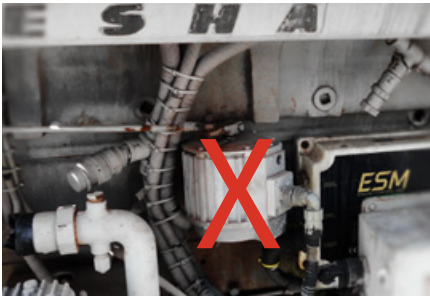


Actuator Replacement Kit

- **MOTORTECH actuator replacement kit for WAUKESHA® VHP Series Four® with ESM and Extender® series engines**
- Drop in replacement
- Eliminates HEINZMANN® actuator
- For L5774LT, L5794GSI/LT and L7044GSI

P/N 63.04.176

Equivalent to:
WAUKESHA® P/N 214046



Scan QR Code®

Thermocouple Rails

- **Thermocouple rails for WAUKESHA® 12 cylinder VHP engines**
- Direct replacement for WAUKESHA® Thermocouple Conduit Assembly
- Available in different versions
- Prefabricated system guarantees easy exchange and installation
- Serviceable stainless steel wiring rail, no foam inside
- 14 thermocouples, Type K (NiCrNi), 90°
- Harness with flex conduit and J-Box or a large connector to fit the ESM
- Rail mounting brackets included in each kit
- 3 versions available



- **Thermocouple wiring rail Kit with 8 ft harness to junction box**

Contains:

- 14 thermocouples, Type K (NiCrNi), 90°, equivalent to WAUKESHA® P/N 211288S
- 8.5 ft harness with flex conduit and fitting
- Rail mounting bracket (2 sets)
- Junction box P/N 06.05.076 with 44 terminals

Equivalent to:

P/N D211359G-MOT WAUKESHA® P/N D211359G

- **Thermocouple wiring rail Kit with 50 ft harness for direct wiring**

Contains:

- 14 thermocouples, Type K (NiCrNi), 90°, equivalent to WAUKESHA® P/N 211288S, but 50 ft cable length
- 50 ft harness with flex conduit and fitting
- Rail mounting bracket (2 sets)

P/N 77.75.068-50

- **Thermocouple wiring rail Kit with 8 ft harness and connector to ESM wiring system**

Contains:

- 14 thermocouples, Type K (NiCrNi), 90°, equivalent to WAUKESHA® P/N 211288S
- 8 ft harness with flex conduit and 33 pole connector, socket
- Rail mounting bracket (2 sets)

Equivalent to:

P/N 77.75.066 WAUKESHA® P/N 214036D



Optional Parts/Spare Parts for Thermocouple Rails

- **Fitting, 1/4 in**
- 1/4 in NPT outer thread
- 14 pcs per rail kit required

P/N 64.40.038 Equivalent to:
WAUKESHA® P/N 194929

- **Thermocouple, Type K (NiCrNi), 90°**
- 23 ft lead length
- For use with D211359G-MOT, 77.75.066

P/N 56.01.094-23 Equivalent to:
WAUKESHA® P/N 211288S

- **Thermocouple, Type K (NiCrNi), 90°**
- 59 ft lead length
- For use with 77.75.068-50

P/N 56.01.094-59



■ Sensor Systems

Oxygen Sensors & Accessories



- **Oxygen sensor for WAUKESHA® VHP G/GSI/LT series gas engines**
- 2 pole, pin, 180° connector
- 17 in length

Equivalent to:

P/N A740106E-MOT WAUKESHA® P/N A740106E, A740106D, A740106C



- **Heat shield**
- Can be screwed on top of weld hub
- Protects the sensor against high temperatures from the hot exhaust manifold

P/N 19.60.022



- **Weld hub**
- Welded into the exhaust pipe to increase oxygen sensor life time
- The heat shield can be screwed on top

P/N 19.60.023



- **Oxygen sensor harness**
- 9 pole, pin, 180° connector
- The heat shield can be screwed on top

Equivalent to:

P/N 06.30.110 WAUKESHA® P/N A740735

Gas Engine Accessories

Coolant Filtration

- **Bypass filters with stainless steel filter elements**
- Cleans and maintains coolant system from rust and contaminants
- Increases water pump life cylinder head efficiency
- Stainless steel filter elements can be cleaned – NO WASTE
- Easy to install and to service – Ideal for retrofitting



- **Coolant filter with 30 in stand**
- 50 micron element
- 9 in length
- Flow indicator
- For temperatures up to 200 °F/95 °C

Equivalent to:

P/N 25.00.009-50-30 WAUKESHA® P/N 489501

- **Coolant filter with 49 in stand**
- 50 micron element
- 18 in length
- Flow indicator
- For temperatures up to 200 °F/95 °C

Equivalent to:

P/N 25.00.018-50-49 WAUKESHA® P/N 489625

Waukesha Advisor
Waukesha Engine Division Advisor, Waukesha Engine, Drossler, Inc.

WEDAdv
November 4, 2001

To: All Distributors
Attn: Parts, Service, and Sales Managers
From: Mike Baron, Senior Parts Marketing Research Analyst
Subject: Coolant Filters

Waukesha Engine is pleased to announce the release of two new stainless steel Coolant Filters. The filters are used to remove particulate impurities such as mineral scale, rust, or sludge from the cooling system. Any of these impurities if left in the cooling system can cause premature component failure that could lead to complete engine shutdown.

The coolant filters Waukesha offers are made of cleanable Stainless Steel. They are easily retrofitted and feature flow indicators, shut off valves, and a prefabricated stand. The filter itself is easily cleaned by simply removing the element and back flushing it with clean water.

Waukesha offers two different size coolant filters. Filter sizing is related more to the current cooling system condition than engine size. The larger filter will hold more contaminant and therefore would require less frequent cleaning. Waukesha would recommend the smaller 489501 for engines that are operated with a good coolant program already in place. Older engines that may have mineral deposits in the cooling system or new applications that may have installation debris would be a good application for the larger capacity 489625.

The coolant filters will be featured as part of the Extender Series® literature that will be released early next year. Keeping the cooling system free of debris will extend the operator's maintenance intervals.

See attached photo for coolant systems and replacement filter parts. All are in stock and ready for immediate delivery.

Waukesha February 2002 | Volume 23 | Issue 1

MAINTAINER

ISSUE TEST: E801001

Coolant Filters Can Help Extend Uptime

What's in an engine largely defines the length of your fleet's life and makes an Extender an excellent choice. However, there is another one that needs considering: Coolant Filtration.

A properly designed coolant filter can remove harmful contaminants, thereby greatly extending engine life. Waukesha's Coolant Filtration Series offers a variety of options to fit your engine's needs. From the smallest to the largest, they are all designed to keep your engine's cooling system clean and free of debris. They are also easy to install and service, making them an ideal choice for retrofitting.

Canadian Case Study

A large gas compressor user in western Canada recently installed Waukesha's Extender Series on their new engine. The user reported that the engine has been running smoothly ever since. The user also reported that the engine has been running for over 10,000 hours without any major maintenance issues.

Convenient Kit Form

Waukesha Engine offers two different sizes of coolant filters. The larger filter will hold more contaminant and therefore would require less frequent cleaning. Waukesha would recommend the smaller 489501 for engines that are operated with a good coolant program already in place. Older engines that may have mineral deposits in the cooling system or new applications that may have installation debris would be a good application for the larger capacity 489625.

What's in an engine largely defines the length of your fleet's life and makes an Extender an excellent choice. However, there is another one that needs considering: Coolant Filtration.

What's in an engine largely defines the length of your fleet's life and makes an Extender an excellent choice. However, there is another one that needs considering: Coolant Filtration.

Accessories for Coolant Filter

■ Single coolant filter element

- 50 micron element
- 9 in length
- Fits P/N 25.00.009-50-30, 489501

P/N 25.00.109-50 Equivalent to:
WAUKESHA® P/N 489508

■ Single coolant filter element

- 50 micron element
- 18 in length
- Fits P/N 25.00.018-50-49, 489625

P/N 25.00.118-50 Equivalent to:
WAUKESHA® P/N 489626

■ Shipping cases for filter elements

- Available for different element lengths

	For Element Length
P/N 25.00.209	9 in
P/N 25.00.218	18 in



Gas Engine Accessories

Lube Oil Filtration

- Re-cleanable stainless steel filters for oil filtration are the environmentally friendly alternative to commonly used disposable filters
- Payback starts immediately after installation Due to re-using of elements
- 100% stainless steel construction
- Longer fluid life
- Extended maintenance intervals
- Improves filtration performance

■ Lube filter element kits ¹⁾

- Including 4, 7 or 14 reusable stainless steel filter elements and shipping case
- 25 micron element
- Element length 15 in, OD 3 in



Equivalent to:

- P/N 25.00.310-4-WA WAUKESHA® P/N 167602B (4 Elements)
- P/N 25.00.310-7-WA WAUKESHA® P/N 167602B (7 Elements)
- P/N 25.00.310-14-WA WAUKESHA® P/N 167602B (14 Elements)

■ Lube filter element kits ¹⁾

- Including 4 or 7 reusable stainless steel filter elements and shipping case
- 25 micron element
- Element length 30 in, OD 3 in

Equivalent to:

- P/N 25.00.311-4-WA WAUKESHA® P/N 168660B,
489493 (4 Elements)
- P/N 25.00.311-7-WA WAUKESHA® P/N 168660B,
489493 (7 Elements)

■ Lube filter element kit ¹⁾

- Including 1 reusable stainless steel filter element and shipping case
- 75 micron element
- Element length 7 in, OD 5 in

Equivalent to:

- P/N 25.00.312-1-WA WAUKESHA® P/N 208472B,
489488 (1 Element)

¹⁾All steel lube filter element kits are supplied with a shipping case

Lube Oil Filtration

■ Lube filter element kit ¹⁾

- Including 1 reusable stainless steel filter element and shipping case
- 75 micron element
- Element length 10 in, OD 5 in

Equivalent to:
P/N 25.00.313-1-WA WAUKESHA® P/N 208472C,
489489 (1 Element)

■ Lube filter element kit ¹⁾

- Including 10 reusable stainless steel filter elements and shipping case
- 25 micron element
- Element length 30 in, OD 3 in

Equivalent to:
P/N 25.00.314-10-WA WAUKESHA® P/N 168660H (10 Elements)

■ Single lube filter element

- 25 micron element
- Element length 15 in, OD 3 in
- Included in P/N 25.00.310-4-/-7-/-14-WA

Equivalent to:
P/N 25.00.310-WA WAUKESHA® P/N 167602B

■ Single lube filter element

- 25 micron element
- Element length 30 in, OD 3 in
- Included in P/N 25.00.311-4-/-7-WA

Equivalent to:
P/N 25.00.311-WA WAUKESHA® P/N 168660B, 489493



■ Gas Engine Accessories



Lube Oil Filtration

■ **Single lube filter element**

- 75 micron element
- Element length 7 in, OD 5 in
- Included in P/N 25.00.312-1-WA

P/N 25.00.312-WA

Equivalent to:

WAUKESHA® P/N 208472B, 489488

■ **Single lube filter element**

- 75 micron element
- Element length 10 in, OD 5 in
- Included in P/N 25.00.313-1-WA

P/N 25.00.313-WA

Equivalent to:

WAUKESHA® P/N 208472C, 489489

■ **Single lube filter element**

- 25 micron element
- Element length 30 in, OD 3 in
- Included in P/N 25.00.314-10-WA

P/N 25.00.314-WA

Equivalent to:

WAUKESHA® P/N 168660H

■ **Single lube filter element**

- 25 micron element
- Element length 17 in, OD 5 in

P/N 25.00.315-WA

Equivalent to:

WAUKESHA® P/N 489491, 305351E

■ **Single lube filter element**

- 25 micron element
- Element length 8 in, OD 4 in

P/N 25.00.316-WA

Equivalent to:

WAUKESHA® P/N 489495, 304126

Lube Oil Filtration

- **Single lube filter element**
- 25 micron element
- Element length 12 in, OD 5 in

P/N 25.00.317-WA Equivalent to:
WAUKESHA® P/N 489490, 305315C

- **Single lube filter element**
- 25 micron element
- Element length 16 in, OD 4 in

P/N 25.00.317-WA Equivalent to:
WAUKESHA® P/N 172607, 489522



■ Gas Engine Accessories

Ultrasonic Cleaning Equipment



■ Ultrasonic cleaning station

- 2,000 Watts of ultrasonic cleaning power
- All new, versatile size to meet a variety of parts cleaning needs
- Environmentally safe aqueous cleaning
- Easy-to-operate controls for time, temperature and cleaning cycle automation
- Stainless steel tank construction
- Dual filter system
- Optional on-board task light
- Heavy-duty locking casters
- High velocity ultrasonics, metallurgically attached transducers
- Ultrasonic frequency sweep to enhance cleaning performance

P/N 25.00.001-110

P/N 25.00.001-220

Power Supply

110 V

220 V

Repair & Overhaul



Repair and Overhaul Service – With One Year Warranty

Based on years of technical experience MOTORTECH offers a comprehensive repair and overhaul service for almost all popular ignition controllers.

Our economically remanufacturing process covers intensive inspections, parts replacement, extensive reconditioning and full operational test procedures. Within an average of four weeks (depends on customer location) we return a fully functional product that looks as good as new.

Flatrate Overhaul of:

- WAUKESHA® CEC ignition controller
- WAUKESHA® IPM-Diagnostic
- All MOTORTECH ignition controllers

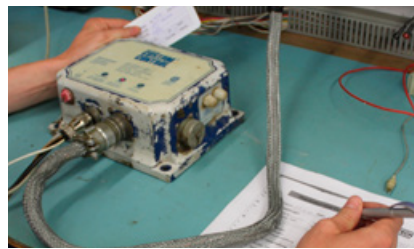


Scan QR Code®



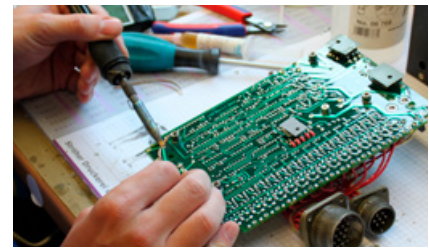
Pre-Cleaning

Pre-cleaning of highly contaminated units.



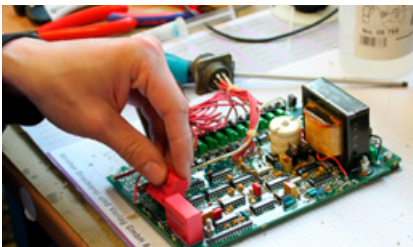
Test Bench Check (Prior to Repair)

Intensive function test and determination of malfunctions.



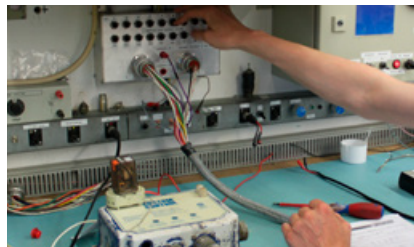
Repair

Replacement of all known plus individual analyzed defects.



Exchange of Components

Exchange of all defective parts and ageing components.



Test Bench Check (After Repair)

Intensive function test with renewed components.



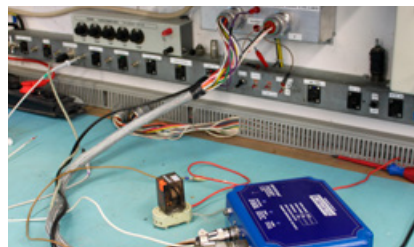
Burn in Test

48 hours stress test with maximum parameters in a furnace at 50 °C (122 °F).



Assembling

Assembling of the controller. Replacing of the gaskets and protective caps.



Final Test (End of Line Test)

Final operational test to control all functions.



Return to Customer

Creation of a repair and customer report. Units are safely packed for return to customer.

Index

P/N	Page	P/N	Page	P/N	Page
02.85.016-100	51	06.85.672H-22	28, 30	07.99.022-4-18	49
06.00.515-6	2	06.85.688-16	28	19.60.022	60
06.00.515-8	2	06.85.699-16	29, 30	19.60.023	60
06.00.516	2	06.85.705-16	28, 30	25.00.001-110	68
06.05.076	58	06.85.714-24	29, 30	25.00.001-220	68
06.20.025	20, 27	06.85.739-16	27, 30	25.00.009-50-30	62, 63
06.20.026	20	06.85.848-16	29, 30	25.00.018-50-49	62, 63
06.20.069-6	20	06.85.993-24	27, 30	25.00.109-50	63
06.20.069-12	20	06.90.099-100	14, 42, 50	25.00.118-50	63
06.20.070	20	06.90.099-105	14, 42, 50	25.00.209	63
06.20.252	21	06.90.105	42	25.00.218	63
06.30.110	60	06.98.005-110	42	25.00.310-4-WA	64
06.31.030-1	4	06.98.005-220	42	25.00.310-7-WA	64
06.31.030-2	4	06.98.054	17, 43	25.00.310-14-WA	64
06.31.032-2	4	06.98.100-200	43	25.00.310-WA	65
06.50.034	8, 9	07.98.034	48	25.00.311-4-WA	64
06.50.035	9, 10, 11	07.98.035	48	25.00.311-WA	65
06.50.054	8, 13, 27, 28, 29	07.98.036	48	25.00.312-1-WA	64, 66
06.50.055	8, 13, 27, 28, 29	07.98.037	48	25.00.312-WA	66
06.51.248	30	07.98.059	48	25.00.313-1-WA	65, 66
06.77.006-72	4	07.98.065	49	25.00.313-WA	66
06.80.005	13	07.98.067-BEX12.....	50	25.00.314-10-WA	65, 66
06.80.036	13	07.98.070-18	50	25.00.314-WA	66
06.80.037	13	07.98.075	30, 43	25.00.315-WA	66
06.80.321-T.....	32, 33	07.98.118-12-BEX12	49	25.00.316-WA	66
06.80.340-T.....	32, 33	07.98.118-34-BEX12	49	25.00.317-WA	67
06.81.138-100	33	07.98.120-18	48	30.41.151-106-VHP-6	55
06.84.040-100	30, 33	07.98.122-A	48	30.41.151-106-VHP-12	56
06.84.069	17	07.98.718	51	30.43.151-106-VHP-6	55
06.84.077-100	30	07.99.019	30	30.43.151-106-VHP-12	56
06.85.422-16	26, 28, 30	07.99.022-1-18	49	31.01.942	55, 56
06.85.423-16	27, 30, 31	07.99.022-2-18	49	31.01.960	55, 56
06.85.649-16	30	07.99.022-3-18	49	43.00.421-12	54

Index



P/N	Page	P/N	Page	P/N	Page
44.01.015	15	95.01.120-30	23, 24	60999G	45, 49
44.01.017	15	95.07.011-3	34	60999Z.....	28, 29, 32, 46, 49
44.01.023	48	95.07.011-6	34	69692B	4
44.99.912	32, 33	95.09.054	12, 27, 28, 31, 47	69694.....	8, 13, 27, 28, 29
56.01.094-23	59	95.09.055	12, 27, 28, 31, 47	69694A	12, 27, 28
56.01.094-59	59	95.09.074	12	69694B	8, 13, 27, 28, 29
63.02.017	56	95.09.075	12	69694C	12, 27, 28
63.04.176	57	95.09.122-11	16	69694D	16
64.40.038	59	95.09.154	9	69694F.....	8, 9
66.00.358-8	2	95.09.155	9, 11	69694G	9
66.00.359-12	2	95.09.222-12	16	69703.....	4
75.30.148-6	55	95.09.223-6	16	69772A	34
75.30.148-12	56	95.30.007-1	5	69772H	34
75.30.149-6	55	95.30.007-4	5	69957.....	11
75.90.295-100	51	95.30.008-3	5	69957A	11
77.75.066	58, 59	95.30.008-4	5	167602B	64, 65
77.75.068-50	58, 59	95.30.008-8	6	168273G	18
77.75.120-12	40, 41	95.70.001-250	18	168660B	64, 65
95.01.010-15	23	95.70.001-400	18	168660H	65, 66
95.01.010-18	22, 23	95.70.002-175	18	169994B-DS	54
95.01.010-24	22	95.70.002-250	18	172607	67
95.01.010-30	23	95.70.002-450	19	178622	4
95.01.010-36	22	95.75.048-B	41	178788	5
95.01.010-42	22	95.75.120-12	40	178788A	5
95.01.020-30	23, 24	95.75.121-12	41	178789	22
95.01.020-36	24	25080-05	32	178789A	22
95.01.107-24	25	25080-06	32	178789B	22
95.01.110-15	23	25080-12	32	178789C	22
95.01.110-18	22, 23	26400-01	32	178789G	23
95.01.110-24	22	26510-01	32	178789H	23
95.01.110-30	23	26510-06	32	178803	5
95.01.110-36	22	60615F.....	16	178804	6
95.01.110-42	22	60999F.....	27, 44, 49	194929	59

Index

P/N	Page	P/N	Page	P/N	Page
208007A	18	305805R.....	20	593022-18	22, 23
208472B	64, 66	393013-1	5	593022-24	22
208472C	65, 66	393013-3	5	593022-30	23
208502C	5	393013-4	5	593022-36	22
208502E.....	5	393013-7	5	593022-42	22
208503B	23	393014-3	5	593027-30	23, 24
208503G	23	393014-4	5	593027-36	24
208503K.....	23	393014-8	6	593041-1	4
208503L.....	24	393018-1	4	593120-3	34
208503T.....	24	393018-2	4	593120-5	34
209567R.....	15	393023-2	4	691118-2	18
209728	4	474053	33	691118-4	18
211288S	58, 59	489488	64, 66	740011A	33
211357P.....	32	489489	65, 66	740283	41
211357U	32	489490	67	740608	2
211749	15	489491	66	740608A	2
211749-MOT.....	15	489493	64, 65	740609	2
211797A	32	489495	66	740609A	2
214036D	58	489501	62, 63	740744	6
214046	57	489508	63	740744-MOT.....	6
269717B	4	489522	67	740746B	25
295844	18	489625	62, 63	740746B-MOT	25
295844A	18	489626	63	740746D	25
295844B	19	501061	8, 12, 13, 27, 28, 29	740753	6
295844E.....	18	0501061-S	12, 27, 28	740753-MOT.....	6
296178A	33	591007	16	791050-1	18
304126	66	591010	8, 12, 13, 27, 28, 29	791050-2	18
305315C	67	591010-S	27, 28	791050-4	19
305351E.....	66	591011B	16	A69694G	9
305805F.....	20, 28	591011C	16	A168368E.....	20
305805G	20	591012	8, 9	A204072	56
305805N	21	591018	9	A204072A	56
305805P.....	20	593022-15	23	A211797G	32

P/N	Page	P/N	Page
A211797H	32	M68-2C.....	34
A211797P.....	32	M68-2T.....	34
A211797R	32	M82N	29
A295844D	18	RB77WPCC.....	46, 49
A740106C	60	RM77N	27, 28, 44, 49
A740106D	60	RM77PP.....	44, 46, 47
A740106E.....	60	RTB77WPCC.....	47
A740106E-MOT.....	60	RTM77N.....	45, 49
A740735	60	RTM77PP	45, 49
A740746	25	S2B832BEX10	31, 47, 49
A740746-MOT.....	25		
A740749	6, 19		
A740749-MOT.....	6, 19		
A740750	6, 19		
A740750-MOT.....	6, 19		
B8124	27, 28, 44, 49		
B8324	28, 29, 32, 46, 49		
D14	27		
D14N	27		
D211359G	58, 59		
D211359G-MOT.....	58, 59		
E204072.....	55, 56		
E204072A.....	56		
F204072A.....	56		
FB77WPCC	46, 49		
GI3-3	29, 32, 46, 49		
GI3-5	46, 47		
GT3-1.....	27, 28, 44, 49		
ICPB812	45, 49		
ICPB832	47, 49		
KB77WPCC.....	46, 49		
M28-2C.....	34		
M28-2T.....	34		

Download now!



All Products at a Glance!

For further Information about the MOTORTECH products get our product guide online.



Scan QR-Code to get to the download page



Distribution partner for DENSO spark plugs



Scan QR-Code to subscribe



Once a month the latest news!

Subscription also at www.motortech.de/subscribe.html or send a short request via email: direkt@motortech.de

MOTORTECH GmbH

Hogrevestr. 21-23
29223 Celle
Germany
Phone: +49 (5141) 93 99 0
Fax: +49 (5141) 93 99 99
www.motortech.de
sales@motortech.de

MOTORTECH Americas, LLC

1400 Dealers Avenue, Suite A
New Orleans, LA 70123
USA
Phone: +1 (504) 355 4212
Fax: +1 (504) 355 4217
www.motortechamericas.com
info@motortechamericas.com

MOTORTECH Shanghai Co. Ltd.

Room 1018 Enterprise Square,
No. 228 Meiyuan Road,
Zhabei District, 200070 Shanghai
China
Phone: +86 (21) 6380 7338
www.motortechshanghai.com
info@motortechshanghai.com

P/N 01.00.014-EN | Rev.02/2018 | Application Guide for WAUKESHA® VHP Series

Copyright

The copyright for all materials used in this MOTORTECH publication is reserved. Any kind of duplication or use of objects such as pictures or texts in other electronic or printed publications without approval by MOTORTECH is not permitted.

Trademark Information

MOTORTECH products and the MOTORTECH logo are registered and/or common law trademarks of MOTORTECH GmbH.

All OEM names and part numbers shown are for reference purposes only. All trademarks, logos and symbols used or shown in this MOTORTECH publication are exclusive objects to the right of their owners and are used for reference purposes only.

Distribution: