

**SUBJECT: Smart Unloading**DATE: December 22<sup>th</sup>, 2011  
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Product Name: 06D/06E/06M OEM Compressors

Carlyle is pleased to announce the introduction of a new compressor capacity control method called Smart Unloading. Smart Unloading is designed to meet the demand for precise suction pressure control by modulating system capacity for all low, medium and high temperature applications and provide leading edge performance in compressor cycling reduction, compressor life extension, and refrigeration system energy usage. The *SMART* controller is designed to operate the compressor unloaders using Pulse Width Modulation (PWM). As it does this, the *SMART* controller will cycle the compressor unloader once every 30 seconds between the loaded and unloaded positions. The relative duration of the loaded versus unloaded times creates a time average flow rate from the compressor allowing linear capacity modulation from 33% to 100%. **This bulletin provides ordering and new compressor model product information.** Installation and operating instructions for Smart Unloading are defined in application manual 574-078, which is available at [www.carlylecompressor.com](http://www.carlylecompressor.com).

**New Smart Unloading Compressor Models**

Carlyle is offering new compressor models which have factory installed Smart Unloading cylinder heads. These heads are easily identified by a “**horizontal line**” stamped on the cylinder head. A Smart Unloading compressor will require two Smart Unloading cylinder heads installed for any 4 or 6 cylinder compressor 06D/E application.



06E, 6 Cylinder



06D, 6 Cylinder



06E, 4 Cylinder



# BULLETIN # 11M-2

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New compressor models, with the smart unloading cylinder heads, will be offered for all 06D & 06E semi-hermetic compressors. The compressor model numbers have been updated as noted below:

<u>Model Family</u>	<u>Model Number Change</u>	<u>Example</u>
06D semi-hermetic	Insert "Y" for 13 <sup>th</sup> digit	06DR3370DA36 <b>Y</b> A
06E semi-hermetic	Insert "Y" for 5 <sup>th</sup> digit	06ER <b>Y</b> 7530A

## New Carlyle SMART Unloading Compressor Model No's.

06D Smart Compressors	460V	208/230V	575V	Application		
	New Model SMART Unloading	New Model SMART Unloading	New Model SMART Unloading			
	06DR3160CA36YA	06DR3160CA32YA	06DR3160CA31YA	LT		
06DM3160CA36YA	06DM3160CA32YA	06DM3160CA31YA		MT		
06DR7180DA36YA	06DR7180DA32YA	06DR7180DA31YA	LT			
06DG8182AA36YA	06DG8182AA32YA	06DG8182AA31YA		MT	HT	
06DR7250DA36YA	06DR7250DA32YA	06DR7250DA31YA	LT			
06DG8252BA36YA	06DG8252BA32YA	06DG8252BA31YA		MT	HT	
06DR2280DA36YA	06DR2280DA32YA	06DR2280DA31YA	LT			
06DG3282BA36YA	06DG3282BA32YA	06DG3282BA31YA		MT	HT	
06DR3370DA36YA	06DR3370DA32YA	06DR3370DA31YA	LT			
06DM3370DA36YA	06DM3370DA32YA	06DM3370DA31YA		MT		
06DG5372BA06YA	06DG5372BA12YA	06DG5372BA01YA			HT	

06E Smart Compressors	460 V	208/230/460V	575V	Application		
	New Model SMART Unloading	New Model SMART Unloading	New Model SMART Unloading			
	06ERY5060A	06ERY5030A	06ERY5010A	LT		
06EMY5060A	06EMY5030A	06EMY5010A		MT		
06E3Y5060A	06E3Y5030A	06E3Y5010A			HT	
06ERY6560A	06ERY6530A	06ERY6510A	LT			
06E3Y6560A	06E3Y6530A	06E3Y6510A		MT	HT	
06ERY7560A	06ERY7530A	06ERY7510A	LT			
06EMY7560A	06EMY7530A	06EMY7510A		MT		
06E3Y7560A	06E3Y7530A	06E3Y7510A			HT	
06ERY9960A	06ERY9930A	06ERY9910A	LT			
06EMY9960A	06EMY9930A	06EMY9910A		MT		
06E3Y9960A	06E3Y9930A	06E3Y9910A			HT	

## New Smart Controller Accessory

The new Smart Unloading Compressor requires a Smart Unloading Controller to control and modulate the compressor's smart unloading valves. The following kit(s) will need to be ordered as an accessory item when ordering a new Smart Unloading compressor model. In addition to capacity controller, the smart controller has the ability to monitor, control, and protect the compressor for high discharge temperature. See application manual 574-078 @ [www.carlylecompressor.com](http://www.carlylecompressor.com) for more technical details regarding the Smart Controller.

<u>Kit P/N</u>	<u>Description</u>	<u>Kit QTY</u>	<u>Kit Contents</u>
06DA609555	Smart Controller Kit	1	Smart Controller, Service Panel Label, Installation Instructions.
06DA609563	DTS Strap-on Sensor (06D compressor)	1	Discharge Temperature Sensor (Accessory Item and is <b>optional</b> )
06EA607195	DTS Screw-in Sensor (06E compressor)	1	Discharge Temperature Sensor (Factory Installed, <b>not optional</b> )



## **Smart Controller**

- The Smart Controller modulates the compressor unloader valve to control capacity and suction pressure.
- The Smart Controller can be configured for low, medium, and high temperature applications.
- The Smart Controller can provide compressor discharge temperature protection.
- The Smart Controller has control outputs for controlling the cylinder head fan and a liquid injection valve (Optional for the OEM).

### **ORDERING NOTES**

1. The new compressor configurations are available NOW. Please consult your regional sales manager as additional lead-time requirements may be necessary to accommodate orders for Smart Unloading Compressors.