

Refrigeration Relays, Overloads & Hard Starts

OV Series Universal Replacement Motor Protectors

Features/Benefits

- Built in temperature activated disc opens and closes the motor overload protector's contacts.
- Excessive heat generated by the compressor, motor or crankcase heater will open the contacts to help protect the equipment from serious damage or burnout.
- UL and CSA Approved

Applications

- Used in heat pumps, air conditioners, motors, refrigerators, freezers, pumps, water coolers, and heating applications.



OVKIT Overload Kit

- Contains one of each overload (10 total)

PART NO.	LOCKED ROTOR		HORSEPOWER AT 120 VOLTS									GEM NO.	MARS NO.	
	AMPS		1/20	1/1	1/10	1/8	1/6	1/5	1/4	1/3	1/2			3/4
OV32	12.0	13.5	•	•									MP359	35004
OV34	14.0	15.5		•	•	•	•	•					MP358	35007
OV36	16.0	18.0			•	•	•	•					MP357	35009
OV38	18.5	22.0			•	•	•	•	•				MP354	35010
OV40	22.5	26.5					•	•	•				MP360	35011
OV42	27.0	31.0					•	•	•				MP355	35012
OV44	31.5	35.5							•	•			MP361	35017
OV46	36.0	40.0							•	•	•		MP352	35018
OV48	40.5	44.5								•	•	•	MP351	35019
OV50	45.0	49.0									•	•	MP362	35020

PART NO.	LOCKED ROTOR		HORSEPOWER AT 120 VOLTS											GEM NO.	MARS NO.	
	AMPS		1/10	1/8	1/6	1/5	1/4	1/4+	1/3	1/3+	1/2	1/2+	3/4			1
OV32	12.0	13.5	•	•	•	•	•	•	•						MP359	35004
OV34	14.0	15.5	•	•	•	•	•	•	•						MP358	35007
OV36	16.0	18.0				•	•	•	•	•					MP357	35009
OV38	18.5	22.0				•	•	•	•	•	•				MP354	35010
OV40	22.5	26.5						•	•	•	•	•	•	•	MP360	35011
OV42	27.0	31.0							•	•	•	•	•	•	MP355	35012
OV44	31.5	35.5										•	•	•	MP361	35017
OV46	36.0	40.0										•	•	•	MP352	35018
OV48	40.5	44.5										•	•	•	MP351	35019
OV50	45.0	49.0											•	•	MP362	35020

This application guide is offered as a guide only when no other information is available.

The application will vary with compressor manufacturer's systems and condenser applications (static, fan, and water cooled, etc.)

Other factors include refrigerant, motor type, and efficiency.

Application Note: Locked Rotor Amperage Measurement. To determine the locked rotor amperage use the following procedure:

1. Disconnect source of electrical supply.
2. By-pass defective overload with jumper.
3. Remove wire from start terminal of compressor.
4. Place hook-on ampmeter on wire going to common or run terminal of compressor.
5. Connect plug to source of current and read ampmeter.
6. If unit does not have a start capacitor, add 1/2 of ampere reading to obtain the locked rotor amps.
Example: If ampere reading is 21, add 1/2 (+11.5) = 32.5 locked rotor amps.
7. If unit has a start capacitor, add 10% of ampere reading. Example: If ampere reading is 21, add 10% (+2.1) = 23.1 locked rotor amps.
8. Replace defective overload and replace wire removed from start terminal.

NOTE: The above procedure should only be used when the motor winding is at ambient temperature.

Direct Replacement Solid State Relays, Overloads and Relay/Overload Combinations

- Direct Replacements for numerous OEM's
- Use OL Series Overloads with IC Series, PO Series and UR115



PART NO.	RELAY OVERLOAD	HORSEPOWER	VAC	# OF TERMINALS	COMPRESSOR CONNECTIONS	CAPATIBLE	CAPACITOR REPLACES OEM NO.
IC100	*	---	1/12 to 1/3	120	2	2	Yes 216594300, WR7X194, WR7X214, 4318083
IC102	*	---	1/2 to 1/3	120	3	2	Yes 5303007173, WR7X240, WR7X5142, 68857-1
OL1	---	*	1/5 to 1/4	120/240	1	1	---
OL2	---	*	1/4 to 1/3+	120/240	1	1	---
OL3	---	*	1/6 to 1/5	120/240	1	1	---
OL4	---	*	1/4 to 1/3+	120/240	1	1	---

* IC100, IC102 replaces PON

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Motor Protector Cross Reference

HP/TYPE	SUPCO OV	TECUMSEH O/L	HP/TYPE	SUPCO OV	TECUMSEH O/L	HP/TYPE	SUPCO OV	TECUMSEH O/L	HP/TYPE	SUPCO OV	TECUMSEH O/L
1/8 Fan	OV34	83281 / 83282	1/5 Fan	OV38	83030 / 83131	1/4 Static	OV44	83013 / 83017	1/3 Fan	OV46	83031 / 83074
		83316 / 83438			83183 / 83183-1			83036 / 83063			83168 / 83168-1
		83441 / 83461			83290 / 83426			83145-1 / 83172			83257 / 83257-1
		83473 / 83606			83439 / 83448			83172 / 83172-1			83257-2 / 83293
		83628 / 83711			83743 / 83743-1			83192 / 83192-1			83307 / 83332
1/6 Fan	OV36	83018 / 83021	1/5 Static	OV40	8300MRT58	1/4 Static	OV44	83321 / 83373	1/3 Static	OV48	8300MRT26
		83042 / 83077			83047 / 83171			83400 / 83435			8300MRT60
1/8 Static		83091 / 83160			83011 / 83139			83376-1 / 83378			83219
		83160-1 / 83165			83171-1 / 83291			83459 / 83647			83434
		83165-1 / 83191			83366 / 83391			83681 / 83694			83673
		8191-1 / 83287			83392			83736-1 / 83766			83673
		83463 / 83691						83376-1 / 83378			83765
		83006						83789			

Valves & Fittings



BPV Series Bullet® Piercing Valves

The *ONLY* valve with a permanent type, patented gasket application!



SUPCO's "Bullet® Piercing Valve" utilizes the same type of gasket found under the head plate of most air conditioning compressors. When installed, the gasket actually compresses the copper tubing .020" creating a permanent, leakproof seal that will withstand any pressure and temperature for the life of the unit.

Features

- Patented valve gasket application provides 50 times more sealing area than competitive "O" ring types
- A sealing force of over 180 inch lbs., torque tested with 500 lbs., pressure tested at 250°F
- Precision piercing needle is engineered for concentricity and hardness to insure perfect seating every time
- Nonpositional mounting — No adapter valve required
- Requires only a 2" clearance area for installation and operation
- Hex key wrench included — No additional tools required
- Corrosion resistant plated

Applications

- Install on the high side as a permanent valve on the job
- Install on round suction lines or uneven tubing

PART NO.	O.D. TUBING SIZE	PACKAGING
BPV31*	1/4", 5/16", 3/8"	12/Box
BPV31D*	1/4", 5/16", 3/8"	48/Box
BPV21*	1/2", 5/8"	8/Box
BPV36	3/16"	12/Box
BPV14	1/4"	12/Box
BPV56	5/16"	12/Box
BPV38	3/8"	12/Box
BPV12	1/2"	8/Box
BPV58	5/8"	8/Box
BPV34	3/4"	1/Box
BPV78	7/8"	1/Box

*NOTE: BPV31 and BPV21 are furnished with adapter sleeves for indicated multiple use applications.

Gasket "O" Rings



PART NO.	ID SIZE	DESCRIPTION	PART NO.	ID SIZE	DESCRIPTION
SF0099	5/32"	Used for SF5050 Valve	SF1060	3/16"	Used in brass caps.
SF0101	1/4"	—	SF1090	5/16"	Black rubber (used for SF2070)
SF0111	5/16"	Black rubber (used for SF3900)	SF5501	1/4"	White teflon (used for SF5500 Series)