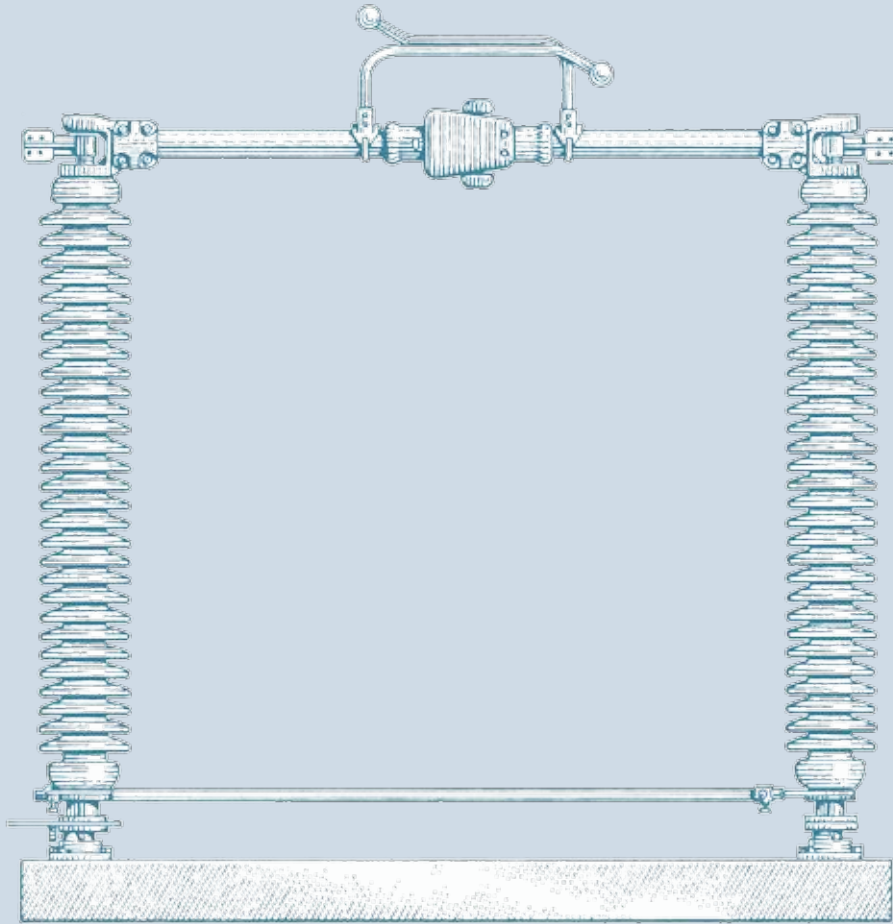


DR7



INTRODUCTION & TYPE TEST DATE : 1976	ANNUAL UNITS PRODUCED : 180
UNITS IN SERVICE : > 6000	CONTINUOUS CURRENT : 3000 AMPS
SHORT CIRCUIT : 99-195 kA PEAK (38-75 kA 3 SECOND)	VOLTAGE : 72.5-420 kV
BIL : 350-1470 kV	INSULATOR : LAPP -----

The DR7 switch is a two insulator center break design. Operation of the switch is accomplished through rotation of both insulators mounted on two maintenance free rotor bearings. Aluminum components are utilized throughout the design except in critical current transfer areas where copper and copper alloy castings are employed. Sealed high pressure current transfer joints in the blade hinge assure trouble free operation. Switch bases are constructed from galvanized structural steel channel. The DR7 design requires minimum overhead clearance. Additional clearance is required between phases.

DR7 VALUE-ADDED FEATURES

Pascor Atlantic's DR7 switch is the result of 100 years' experience in developing and supplying power equipment to the electric utility industry. Pascor Atlantic has continuously pioneered the research, design, testing and the manufacture of outdoor disconnect switches. We maintain this leadership because of our continued innovative efforts to provide maximum value in acquisition, installation, maintenance and operating reliability.

Procurement:

Local sales representatives and expertise
Pre-engineered controls available for quick delivery
ISO 9002 certified
ISO 14000 compliant
On-time shipment
Industry's shortest lead times

Engineering:

Universal base and control fit most structures
All parts designed to resist corrosion
Adaptability to meet special requirements
Availability of AutoCAD format drawings
Manual and motor operation

Installation:

Interphase and vertical operating pipes in pre-engineered or customized lengths
Adjustable threaded clevis for ease of fine adjustment of threepole switches
Open-close stops on each switch pole
Service technicians available for assistance
On-time deliveries

Maintenance:

Greaseless rotor bearings with stainless steel ball bearings on switch bases
Weather-sealed, grease-filled enclosed switch hinge contacts
Corrosion-free gears in all operators
No threaded coupling applied in torsion
Replaceable copper moving contacts

Accessories:

The following accessories can be provided for the DR7:
Arc Restrictors thru 145 kV (Quick Whips)
Auxiliary Switches
Cable Guides (Outriggers)
Spill Gaps
Leveling Screws (Jacking Bolts)
Position Indicators
Silver-to-Silver Open Air Contacts

OPERATORS

The DR7 can be operated either manually or by a motor mechanism. Below is a list of operators which can be supplied:

Swing Handle
Worm Gear
MO-10 Motor Operator

GROUNDING SWITCH

For grounding during inspection, maintenance, or repair, a threepole grounding switch can be mounted on the hinge and/or jaw end of the DR7. Interlocking to prevent the main and ground switches from being closed at the same time can be accomplished via Kirk key interlocks, mechanical interlocks, or electrical interlocks (where electrical operators are used).

High speed grounding switches for fault initiating can also be mounted on the DR7. High speed grounding switches can be reset by using a hookstick or one of the operators listed above.

ORDERING INFORMATION:

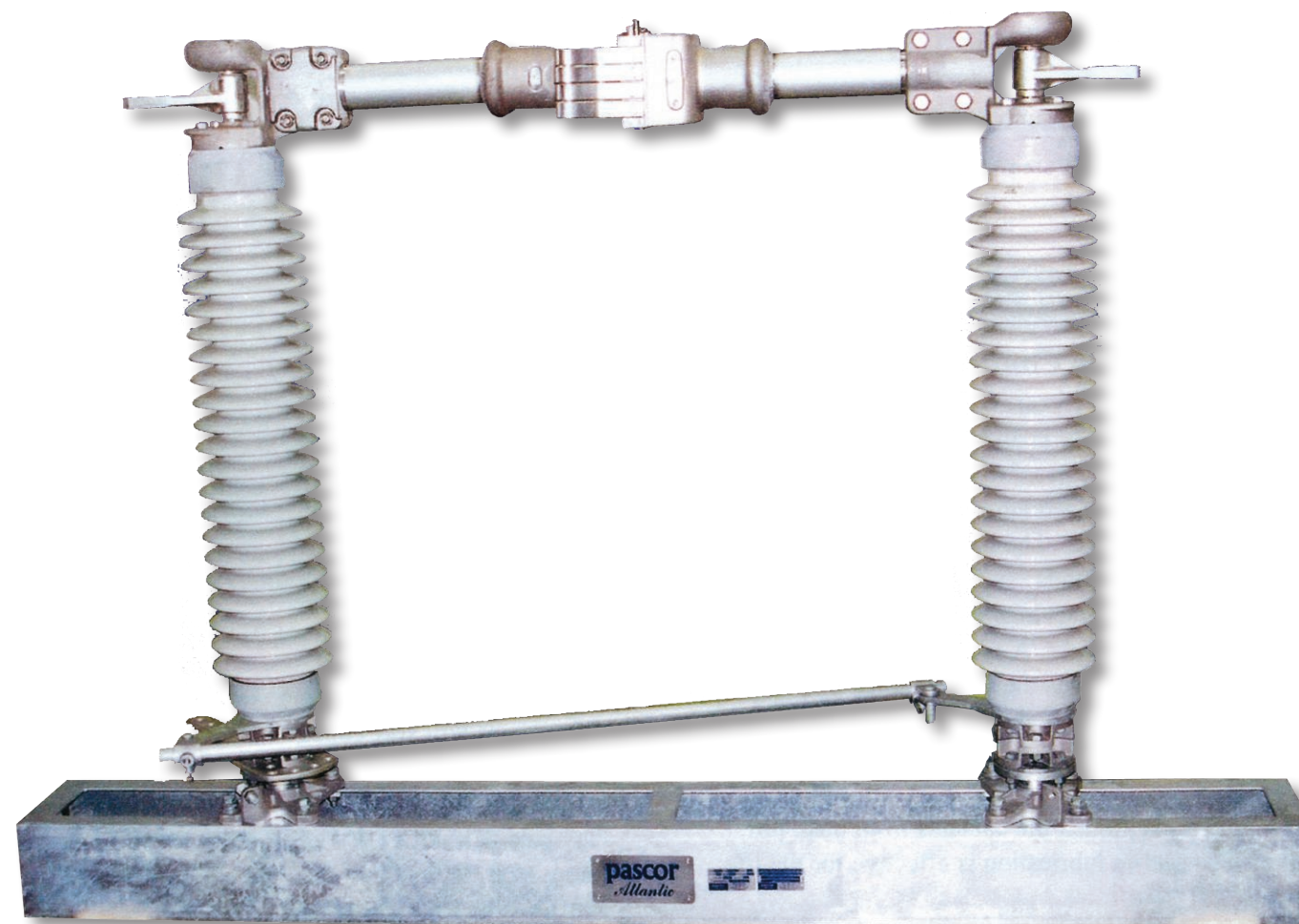
The following information is the minimum required when ordering DR7 center-break switches:

Voltage, BIL rating, continuous current, momentary rating
Mounting positions (upright, vertical, or inverted)
If grounding switches are specified:
- momentary rating
- location and position
- coil voltage (for HSG only)
Operators required (main and ground switches)
Insulator specification including:
- BIL rating
- technical reference (TR #)
- bolt circle diameter
Mounting information
Structure and detail drawings
Fixed terminal pad height if applicable

Type DR7

**PASCOR
ATLANTIC**
Delivering More. Delivering Service.

**69 THRU 362 kV
3000A
40-120 KA Momentary**



Center-Break Outdoor Air Disconnect Switch

Description

The DR7 switch is a modern and reliable two-insulator, centerbreak, outdoor air switch using a variety of materials in its design selected to do a specific job according to the function required.

Optimum mechanical and electrical characteristics of the current carrying parts are assured through the use of high-conductivity, high-strength aluminum alloys combined with transfer contacts utilizing the time proven high-pressure, silver-to-copper construction.

Throughout the current path all bolts, nuts, and pins are stainless steel, minimizing the possibility of corrosion.

A galvanized structural steel channel base supports the insulators and live parts. The switch is designed to enhance the electrical and mechanical characteristics of current carrying parts. The mechanical parts and rotor bearings are designed for durability to withstand cantilever stresses, ensuring long-lasting service in all types of environments. All parts have been designed to be uniform across the product line. As a result, parts are easier to stock and are more readily available from the factory.

Pascor Atlantic

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254 Industry Dr. • Bland, Virginia 24315-9709
Phone: 276-688-3328 • Fax: 276-688-2228 or 2229
www.pascoratlantic.com

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This bulletin describes our standard product and does not show variations in design which may be available. If additional details are required, contact your local Pascor Atlantic representative. Pascor Atlantic reserves the right to make changes or improvements to the product shown in this bulletin without notice or obligation.

SEPTEMBER 2009 DB-DR-7-A

APPLICATION

Type DR7 center-break switches meet or exceed ANSI C37 and IEC 129 standards and are adaptable to substation and line applications. They may be applied for any conventional requirements such as main line disconnecting, bus sectionalizing, breaker isolating and by-passing, or transformer disconnecting. They are also capable of interrupting line-charging and transformer-magnetizing current when equipped with interrupting attachments.

MOUNTING

Type DR7 switches can be mounted in upright, inverted or vertical positions.

DR7 DESIGN FEATURES AND BENEFITS

Sealed Pressure Hinge Contacts

The DR7 design is backed by years of a solid reputation and proven dependable service life in all types of climates and conditions. The transfer of current from the hinge to the terminal is through a spring-loaded hinge pin threaded into the tinned copper swivel terminal. The hinge pin is tin-plated copper with silver-plated threads. A stainless steel pressure spring provides positive contact between the threads regardless of the position of the blade. A specially designed stainless steel tapered insert expands the slotted hinge pin, applying a high radial force to engage the tinned surface of the hinge pin with the properly prepared surface of the aluminum hinge casting, thus providing a reliable current transfer. Neoprene O-Ring seals protect the contacts from dust, dirt, and moisture. The seal-in lubrication is effective for the life of the switch.

Jaw Contacts

The jaw consists of tinned, hard drawn reverse loop copper jaw fingers backed by stainless steel springs to provide excellent current-carrying capability and resistance to corrosion. The stainless steel springs are insulated at one end to eliminate current flow through the spring and thus prevent annealing. This design prolongs the life of the spring and ensures consistent contact pressure.

The reverse loop finger design of the jaw contact assures that the contacts will stay engaged under fault conditions. Magnetic forces from the fault current tend to push the blade deeper into the jaw rather than out of the jaw. Consequently, the blade will not be driven from the jaw due to magnetic forces from fault conditions, preventing damage to the switch and any adjacent construction.

The blade contact end consists of a replaceable silver-plated copper bar bolted directly to the swaged blade end, minimizing current connections and welded joints to promote better current carrying performance. The contact end is easily replaced in the field by removing a few bolts thereby reducing the amount of downtime.

The opening and closing of the switch is accomplished by two insulator stacks that rotate simultaneously but in opposite directions. The two rotating insulator stacks are interconnected by a connecting rod. The rotating action of the contacts, when opening and closing, provides a self-cleaning wiping of the contacts. Proven silver-to-tinned copper contacts are used in the design.

All other dynamic contact joints are permanently lubricated and sealed by O-rings. This design assures reliable operation over the course of many years in all types of weather conditions and environments.

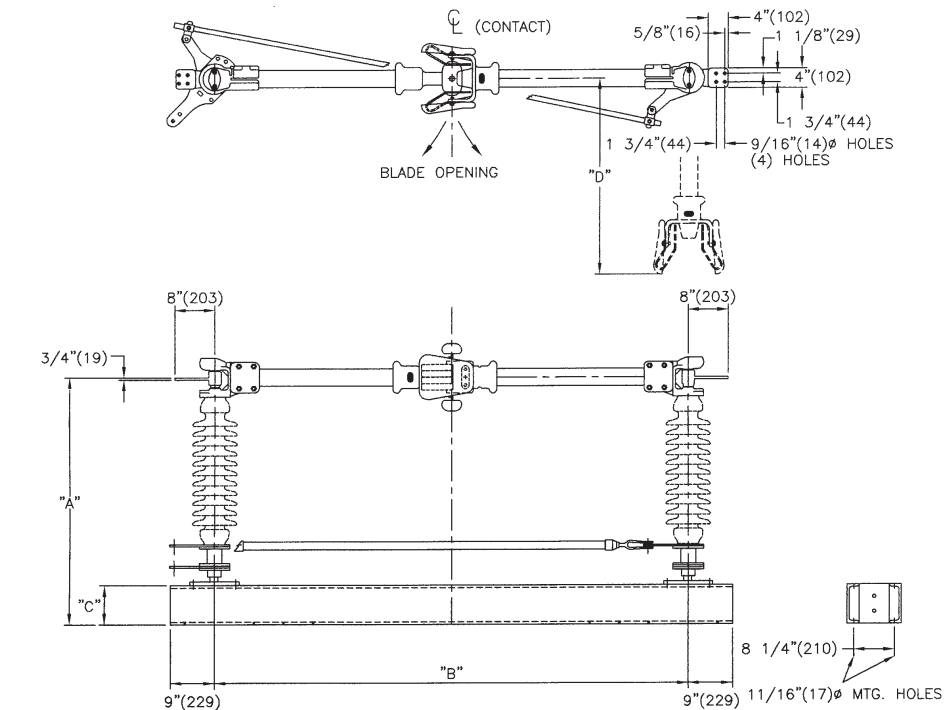
Rotor Bearings

The insulator stacks rotate on greaseless rotor bearings that contain two sets of stainless steel ball bearings. Weather seals prevent moisture and foreign matter from entering the rotor bearing. The ball bearing sets are spaced far enough apart to provide sufficient support to withstand cantilever stresses and to allow the ball races to take thrust loading as well as radial loading. This design assures smooth operation and minimized operating effort. Because of this design, no maintenance is required, ever.

Switch Bases

Switch bases of galvanized structural steel channel are designed and tested to be rigid under all operating conditions. Heavy galvanizing is applied after punching to assure long corrosion-free life. Universal bases are available for all switch types. This base allows for infinite mounting bracket location which assures mounting holes will match without the need for field modification.

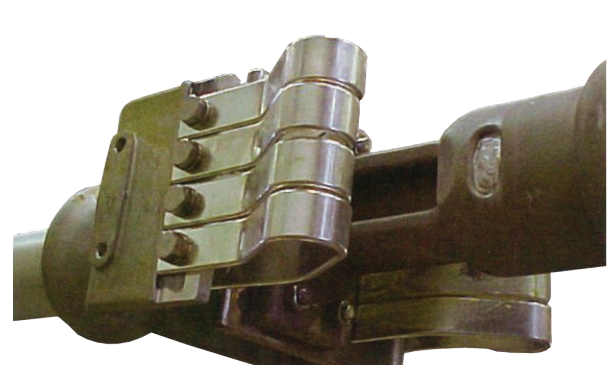
DR7 SPECIFICATIONS



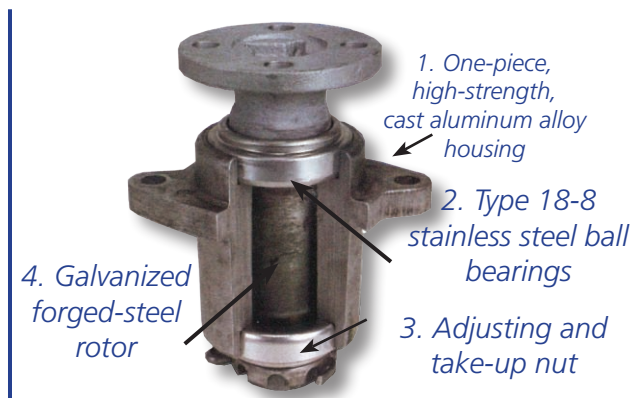
KV	*INS*	*A*		*B*		*C*		*D*		APPROX. SINGLE POLE WEIGHT WITH INSULATOR	
		IN.	MM	IN.	MM	IN.	MM	IN.	MM	LBS.	KG.
69	TR-216	47 7/8"	1216	48"	1219	6"	152	29 1/16"	738	467	212
115	TR-286	62 7/8"	1597	60"	1524	6"	152	34 1/16"	865	671	304
138	TR-288	71 7/8"	1826	72"	1829	6"	152	39 9/16"	992	748	339
161	TR-291	79 7/8"	2029	84"	2124	6"	152	45 9/16"	1157	830	376
230/900	TR-304	99 7/8"	2537	96"	2438	8"	203	52 3/8"	1330	1114	505
230/1050	TR-312	111 7/8"	2842	122"	3099	8"	203	65 3/8"	1661	1259	571
345/1050	TR-312	111 7/8"	2842	122"	3099	8"	203	67 1/2"	1715	1261	572
345/1300	TR-324	128 5/8"	3267	144"	3658	10"	254	76 1/2"	1943	1701	771



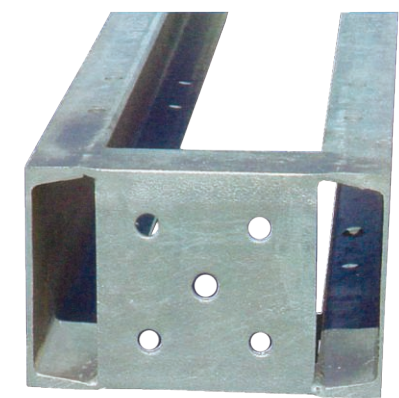
HINGE ASSEMBLY



JAW ASSEMBLY



ROTOR BEARINGS



SWITCH BASES