MODEL “HDFX”
Direct Drive
Springless Design

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**Please verify specifications. TNR Industrial Doors reserves the right to modify specifications any time without notice.*

PART 1 - GENERAL

1.1 SECTION INCLUDES:

.01 Steel channel door frames and reinforcing steel. Section 05500.

.02 Electrical power supply. Division 16, Electrical.

1.2 DESIGN CRITERIA

.01 Rolling door to have NEWGEN® Guide and Curtain Lok™ system to provide a near airtight seal and knock-away feature for easy reassembly upon impact.

.02 After accidental impact, door must be capable of reset from ground level without the use of ladders, tools, or lift equipment.

.03 Rolling door SBR curtain for service temperature range of -40°F to +180°F (-40°C to +85°C).

.04 Optional rolling door PVC curtain for service temperature range of 22˚F to +176˚F (-30˚C to +80˚C).

1.3 SAMPLES

.01 Submit shop drawing in accordance with Section 01340 [Division 1 - General Requirements] - Shop Drawings, Product Data, Samples and Mock-Ups.

1.4 SHOP DRAWINGS

.01 Submit shop drawing in accordance with Section 01340 [Division 1 - General Requirements] - Shop Drawings, Product Data, Samples and Mock-Ups.

.02 Indicate each type of door arrangement of hardware, required clearances, electrical characteristics including voltages, size of motors, auxiliary controls and wiring diagrams.

.03 Indicate assembly details and dimensions of fabrication, required clearances and electrical connections.

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PART 1 – GENERAL

1.5 MAINTENANCE DATA

.01 Provide operation and maintenance data for the Model "HDFX" door and hardware for incorporation into manual specified in Section 01730 [Division 1 - General Requirements] - Operation and Maintenance Manual.

.02 Maintenance data shall include:

- a complete description of operation in order of task
- wiring diagrams showing all electrical connections
- a list of parts requiring replacement
- a parts list with illustrations and identifications
- identification numbers for each door

1.6 QUALITY ASSURANCE

.01 Installer with Factory-Approved qualifications.

PART 2 - PRODUCTS

2.1 PRODUCTS

.01 The acceptable rubber roll-up door is to be the Model "HDFX" springless design as manufactured by TNR Industrial Doors.

.02 Substitutions will not be accepted.

2.2 CURTAIN

.01 Standard Curtain Material - Two (2) layers of Styrene Butadiene Rubber (SBR) each 1.25mm (3/64") thick, 70 durometer; sandwiched with 1-ply, 50kg (110 lbs.) polyester cord centre. . Overall curtain thickness is 2.5mm (3/32") Material provides normal resiliency and flexibility at temperatures ranging from -40°F to +180°F (-40°C to +85°C)

.02 Standard Color: Black
Also available in Orange or Blue EPDM.

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PART 2 – PRODUCTS

2.2 CURTAIN

.03 Optional Curtain Material – Three (3) layers of PVC with a Polyester Monofilament cord with lateral stability between each layer of PVC. Each layer of PVC 0.8mm (1/32") thick, 80 Shore A. Overall curtain thickness is 2.5mm (3/32"). Material provides normal resiliency and flexibility at temperatures ranging from -22˚F to +176˚F (-30˚C to +80˚C)

.04 Standard Color: Blue
Also available in Orange

.05 Complete with molded NEWGEN® Curtain Loks™ that are mechanically attached to the vertical edges of the curtain material. This retention system maintains and holds the curtain in guides under extreme windload conditions. Continuous glued SBR windlock or molded-in place Teflon windlock designs will not be accepted.

2.3 GUIDES

.01 Side curtain retention: NEWGEN® Guides shall be one-piece extruded aluminum to form a slot of sufficient depth to allow the NEWGEN® Curtain Lok™ to move freely in the guides at all times. Aluminum members are to be of sufficient thickness and rigidity to maintain the NEWGEN® Curtain Lok™ within the guides during normal operation while enabling the NEWGEN® Curtain Lok™ to release during accidental impacts.

.02 Steel guides (bolted or spring-loaded) will not be accepted.

.03 Side frame: Mounting angle is provided for installation directly onto concrete or steel door framing. Additional customization of door frame is not required.

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PART 2 - PRODUCTS

2.4 BOTTOM RAIL

.01 Bottom bar shall extend the full width of the curtain, sufficient to maintain the bottom edge of the curtain parallel to the door threshold at all times. The bottom bar shall be constructed of two steel angles bolted together and shall have a knock-away section to reduce risk of damage during accidental impacts.

.02 Knock-away bottom bar to be reset without the need to open side frames. Single angle design will not be accepted.

2.5 ROLL-UP DOOR SYSTEM

.01 The curtain is to be rolled on a barrel of sufficient size to carry the door load with a deflection of not more than 2.5 mm/m (.03" per foot) of opening width. Drive shaft in the barrel is to be constructed of minimum 38.1mm (1 1/2") C1018 Cold Rolled steel shafts.

.02 Door shall be designed to operate safely without the use of a counterbalance system (springless design).

.03 End brackets are constructed of 4.7mm (3/16") hot-rolled steel plate c/w sealed heavy-duty, self-aligning bearings with cast iron housings to support the drive barrel. Drive shaft bearing shall be load-rated at 2305 kg (5070 lbs.) dynamic and 1604 kg (3530 lbs.) static.

2.6 REVERSING EDGE

.01 Door to be equipped with reversing sensing edge to stop and reverse door to manufacturer’s standard. A 1/8” thick EPDM rubber loop shall wrap the reversing edge. Both the reversing edge and rubber loop must be replaceable without removing the bottom bar from the curtain.

2.7 ACCESSORIES

.01 Various accessories are available i.e.: radio controls, motion sensors, loop detectors, pull cords, traffic lights, etc.

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PART 2 - PRODUCTS

2.8 CONSTRUCTION

.01 Doors: constructed of steel, aluminum and SBR rubber/woven curtain.

.02 Structural elements: assembled by welding or by mechanical fasteners.

2.9 OPERATION OF DOOR

.01 Doors shall be equipped for operation by:

a) electric operator
b) manual chain hoist

2.10 MANUAL OPERATION

.01 Emergency manual chain hoist shall be provided to allow manual door operation.

.02 Chain hoist shall be of sufficient capacity to operate a door at a maximum pull requirement of 9 to 14 kg (20 to 30 lbs.). The static load on the hand chain to hold the door in any position must not exceed 5 kg (11 lbs.).

2.11 ELECTRICAL OPERATION

.01 Electric door operators shall be CSA/UL approved, high RPM, heavy-duty worm gear type c/w pre-wired, number coded control cabinet as required, to manufacturer’s standard. Panel enclosure to NEMA-4 rating.

.02 Motor to be NEMA 4, high-starting torque, direct drive, hoist-type, operating through a worm gear reducer mechanism. Sprockets and chains will not be accepted.

.03 Motor to be of capacity to open door at maximum speeds of up to 60" per second, depending on door size to manufacturer’s standard, rated for X-HP power, “X” Voltage, “X”-phase, “X” Hz.

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PART 2 - PRODUCTS

.04 Operator shall be equipped with digital absolute encoder-type limits to control open and close door positions as well as an electro mechanical brake system to stop and hold door in any position to manufacturer's standards.

.05 Operator shall be equipped with built-in manual emergency chain hoist. Built-in electrical interlock shall prevent motor operation during use of manual chain hoist.

.06 Control Panel:
Panel enclosure shall be NEMA-4 and wiring shall be completed by manufacturer and shall be UL listed. Drive system shall be controlled by logic board c/w inverter drive for soft start and soft stop door operation. Motor control by a reversing contactor is not acceptable. Control panel shall have disconnect for primary power, adjustable closing timer, three (3) push buttons for open, close and stop functions, push/pull mushroom button E-stop and a cycle counter.

.07 Control panel shall have two line display visible from outside the control panel. Display to show all faults and input activations.

.08 Control panel shall be equipped with adjustable parameters for various door functions.

.09 Control panels without inverter drive will not be accepted.

PART 3 - EXECUTION

3.1 INSTALLATION

.01 Install doors in accordance with manufacturer's printed instructions.

.02 Install electrical motors, controller units, push-button stations and other electrical equipment required for door operation.

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PART 3 - EXECUTION

.03 All electrical wiring including power supply, control and interface located near the door to be installed by an electrical contractor (to be put into electrical contractor’s specification).

.04 Upon completion of the door and electrical installation, the door installer must make necessary adjustments to the door to ensure smooth operation.

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