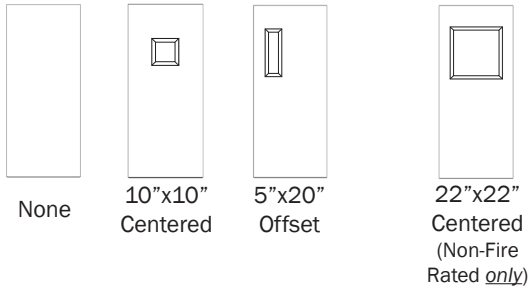


# HYDRO1 PEDESTRIAN FLOOD DOOR SYSTEM

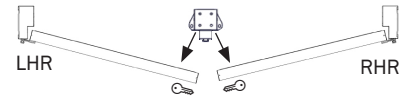
## PASSIVE FLOOD PROTECTION BARRIER STEEL FLOOD DOOR, FRAME, AND HARDWARE

- Hydro1-PD520 Flood Door
- Hydro1-PD522 90 Min Fire Rated Flood Door
- Hydro1-PD525 Mechanical Room Flood Door

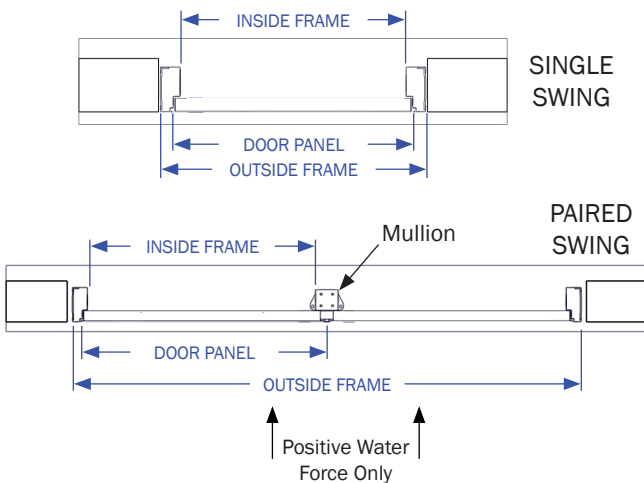
**VISION LITE OPTIONS:**  
(Viewable Opening Size Shown)



**HANDED:**  
(LHR, RHR, or  
PAIRED)



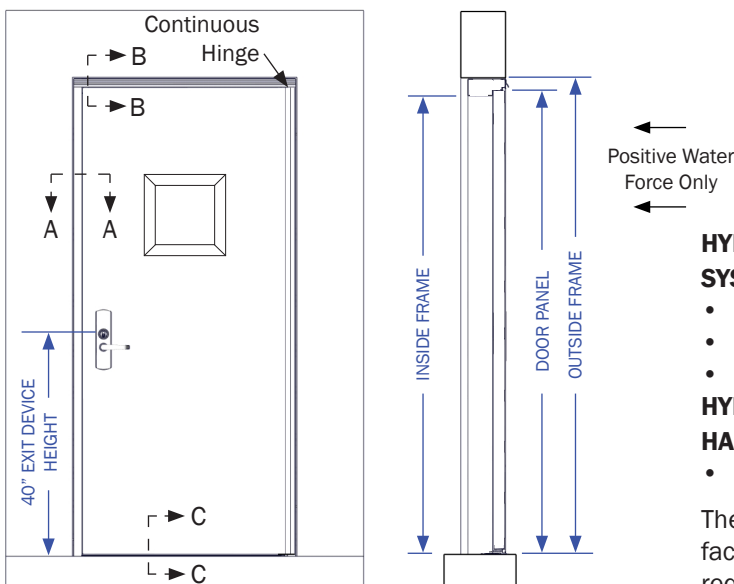
**SUGGESTED USE:**  
(INTERIOR or EXTERIOR)  
*Commercial, Health Care, Institutional, Retail, Factory, Warehouse, Government, Transit Authority, or Critical Infrastructure.*



SINGLE STANDARD WIDTH		
DOOR PANEL WIDTH	OUTSIDE FRAME WIDTH	INSIDE FRAME WIDTH
36"	40"	34"
38"	42"	36"
40"	44"	38"
42"	46"	40"
44"	48"	42"

PAIRED STANDARD WIDTH		
DOOR PANEL WIDTH	OUTSIDE FRAME WIDTH	INSIDE FRAME WIDTH
36"	76"	33"
38"	80"	35"
40"	84"	37"
42"	88"	39"
44"	92"	41"

STANDARD HEIGHT		
DOOR PANEL HEIGHT	OUTSIDE FRAME HEIGHT	INSIDE FRAME HEIGHT
80"	82"	79"
84"	86"	83"
86"	88"	85"
94"	96"	93"
96"	98"	95"



**HYDRO1-PD520/PD522 APPROVED/TESTED FLOOD DOOR SYSTEM HARDWARE:**

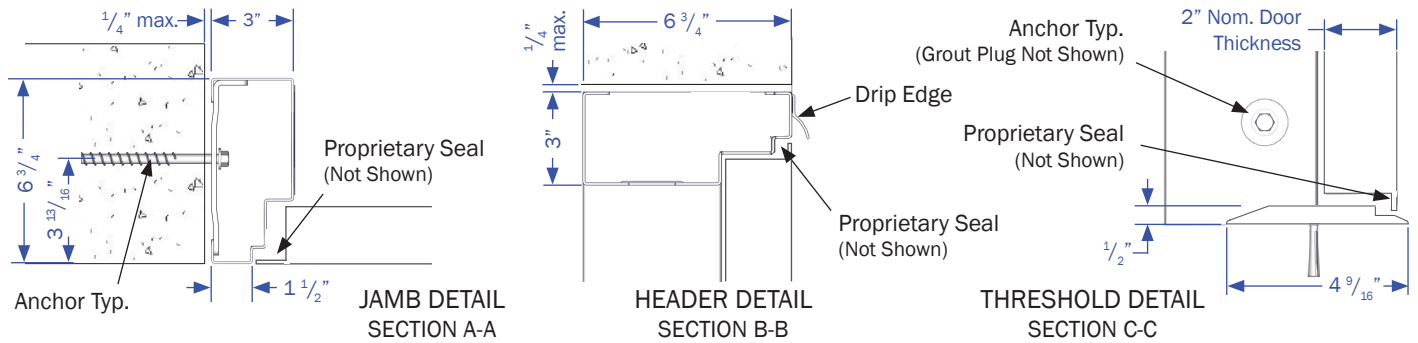
- Interior: Von Duprin 98/99 series Rim exit device.
- Exterior: Von Duprin 996L Lever, classroom function.
- Closer: TownSteel TDC40 Cush, AL689 finish.

**HYDRO1-PD525 APPROVED/TESTED FLOOD DOOR SYSTEM HARDWARE:**

- PS Flood Barriers' 2 Point Wedge Latch

These hardware sets have been specifically chosen, tested, and factory improved for flood resistance on the Hydro1, substitutions require manufacturer's engineering review. Hydro1-PD522 uses fire rated versions of Hydro1-PD520 hardware.

\*Section Views are located on Page 2.



AVAILABLE MATERIAL TYPES				AVAILABLE MATERIAL FINISH				
DOOR CORE STRUCTURE <sup>1</sup>	TYPE	FRAME	DOOR SHEETS	PRIMER	INDUSTRIAL ENAMEL	No. 2b (Mill finish)	No. 4 (Brushed)	No. 6 (Polished)
Steel	Commercial Galvanealed	14 Gauge	16 Gauge	1 Coat	2 Coats	-	-	-
Stainless Steel	316	14 Gauge	16 Gauge	-	-	Standard	Optional	Optional

<sup>1</sup> Door panel core is structural or formed shapes, tubing, and bars of appropriate size and strength with welded construction. All door panel edges are hemmed. Door panel insulation is R-8 batt fiberglass full depth of door panel cavity.

INDEPENDENT PARTY VALIDATED PERFORMANCE				
PEDESTRIAN FLOOD DOOR MODEL	WATER PROTECTION HEIGHT	TESTING STANDARD	PANEL LEAK RATE (max recorded) <sup>1</sup>	HARDWARE LEAK RATE (when submerged)
HYDR01-PD520/PD522	36"	ANSI/FM 2510	0.04 gal/lin. ft. of wetted gasket/hr	—
HYDR01-PD520/PD522	96"	ANSI/FM 2510	0.04 gal/lin. ft. of wetted gasket/hr	0.031 gal/hr

<sup>1</sup> Testing conducted under factory test conditions. Field conditions and installation tolerances can differ. Always allow for some seepage and condensation from product and adjacent building structure.

### PERFORMANCE PARAMETERS

- All water pressure loads and operating loads are transferred to the mounting structure.
- Flood barrier products are designed to be anchored into 8" grout-filled CMU, 3000 psi (min.) 8" CIP, or 3/8" structural steel (Welded or Drill & Tap).
- Flood protection products are engineered to conform to the design requirements that are based on the latest adopted edition of the International Building Code (IBC), while including the application of the representative load combinations and appropriate equivalent load factor as recommended by the following, but not entirely limited to, applicable referenced standard documents and supplements. ASCE/SEI 7 & 24, FEMA (ref. IBC 2012), FM Global, AISC, ADM, and ACI.
- Except as otherwise indicated, requirements for flood barriers, terminology, tolerances, standards for performance and workmanship are those specified as Type 2 Closures in Chapter 7, Section 701.1.2 of U.S. Army Corps of Engineers, EP 1165-2-314, 15 December 1995.
- These Type 2 Flood Closures/Barriers shall form essentially dry barriers or seals, allowing only slight seepage during the hydrostatic pressure conditions of flooding to the Regulatory Flood Datum (RFD) or the Design Flood Elevation (DFE). Seepage amounts will vary with conditions encountered. This issue should be addressed by the design professional and usage of sump or bilge type pumps should be used to offset potential water build-up.
- This product uses compressible seals, which are not dependent on inflation devices.
- Passive Barrier or Flood Mitigation Product: A permanent barrier or other flood mitigation product that, after its initial installation, either requires no deployment or requires no human intervention for deployment.

LOADING CAPACITY OF STANDARD PRODUCT DESIGN								
Door Panel Size	MAX 48" PRODUCT DESIGN		MAX 96" PRODUCT DESIGN					
	48" Water Protection Height		72" Water Protection Height		96" Water Protection Height		MAX WPH if HSL <i>only</i>	
	Std. Frame Anchorage	Welded-in or Z-Frame support	Std. Wall Anchorage	Welded-in or Z-Frame support	Std. Wall Anchorage	Welded-in or Z-Frame support	Std. Frame Anchorage	Welded-in or Z-Frame support
36" x 84"	505lbs impact	1850lbs impact	325lbs impact	1500lbs impact	150lbs impact	1300lbs impact	115" WPH	134" WPH
48" x 96"	375lbs impact	1100lbs impact	175lbs impact	875lbs impact	Hydrostatic Loading <i>only</i>	625lbs impact	98" WPH	143" WPH

**Custom Engineering Design available** for specific loading requirements. Up to 20 ft of flood water depth.

All impact forces include 8ft/s (79.6psf) hydrodynamic load applied over a 12" x 12" area.

Localized bending may occur to sheeting, hardware, hinges, or other surfaces directly exposed to an impacting object but not affect the barriers ability to withstand loads.

All analysis was ran using applicable ASD and LRFD load factors in accordance with ACSE 7-10 chapter 2 for Non-Coastal flood zones.