



WEIGEL

MECHANICAL ELECTRICAL PLUMBING & FIRE PROTECTION



PATENTED

InViroPak™ R.A.D.

Raised-floor Air Distribution unit

Function

The R.A.D. unit is an Air Handler that is built with an integral reinforced floor tile and sits in a raised floor system. It pulls air from the cool air plenum under the raised floor, filters the air (optional), and pushes the air up through the floor tile to actively cool equipment (servers/computers) or personnel sitting above the raised floor system. The air is distributed through flexible anti-static fabric ducting or registers from the top of the unit or from the side of the unit (where air needs to be directed into the bottom of a computer cabinet and/or rack).

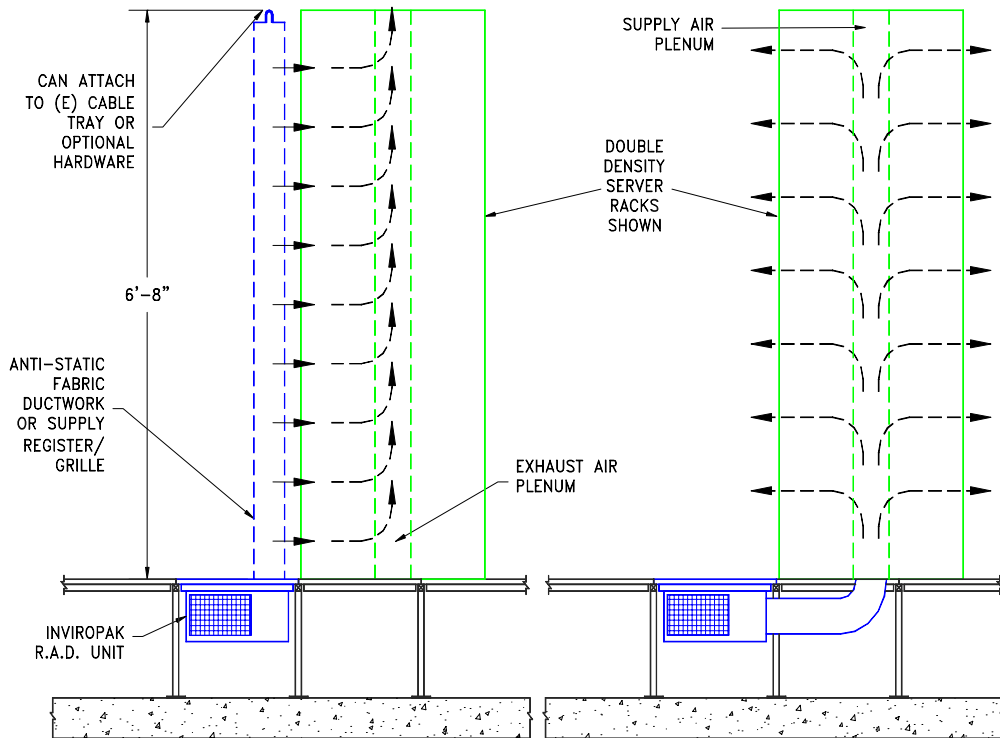
Benefits

- Actively pulls cool air from the underfloor plenum and directs it to the load instead of arbitrarily cooling the room
- Can supplement existing CRAC, CRAH, or ISU's to become an integral part of the computer room or data center cooling system
- Increases life of electronic circuitry (servers and computer equipment) up to 100% by keeping it cool
⇒ **payback opportunity (\$\$\$\$)**
- Can be coupled with a consolidation of cooling equipment off of the Computer room or Data Center floor to increase available floorspace by 20-30% that will allow room for additional computer equipment and/or additional hosting revenue. This consolidation can allow the elimination of underfloor condenser water piping and associated heat added to the underfloor plenum air (which is supposed to be used to cool Servers) or other air restrictions. It can also decrease the energy needed for cooling up to 35%, and decrease new construction time by 60%.
⇒ **payback opportunity (\$\$\$\$)**
- Integrates into a standard 24"x24" raised floor system and extends down into the plenum as little as 6" (depending on model size/options) from the top of the raised floor
- Self-contained and portable; therefore, the system can be installed easily in one location and moved to another later, thus allowing installation flexibility.
- Assorted air distribution options available: Flexible anti-static fabric ducts (std) provide good air distribution to computer equipment and server racks/cabinets while allowing access to the equipment being cooled (without having to tear apart ducting); registers; alternate supply air duct openings under the floor tile can be used to direct air into the bottom of a computer/server rack or cabinet; interchangeable duct blank-offs (optional) and bulkhead fittings are provided to allow any combination of air distribution systems.
- Easy to maintain (optional disposable filters accessible from the top, fabric ducts are machine washable, maintenance-free blower/motor, internals and controls are easily accessed via a large maintenance access
- Minimizes temperature stratification to provide consistent cooling from the bottom to the top of the computer racks/cabinets.
- Fan motors are 100% speed controllable to provide manual or automatic Variable Air Volume (VAV) control to save energy.

Model Number Nomenclature

<p>Type RAD Raised floor Air Distribution unit</p> <p>Function B Booster Blower</p> <p>Nominal Capacity 1 1 Ton (400 CFM) 1.5 1.5 Ton (600 CFM) 2 2 Ton (800 CFM)</p> <p>Filter NF Non-Filtered (standard) FS With Filters, Side Access FT With Filters, Top Access</p> <p>V/Ph/Hz 1 120/1/60</p> <p>Air Discharge V Vertical Discharge (standard) H Horizontal Discharge O Omni-throw (Top and Side Discharge w/interchangeable blankoffs/collars)</p>	<p style="text-align: center;">RAD B 1 NF 1 V GRL M VP T</p> <p>Handles T Tee Handle Slot (standard) H (Specify quantity of Tee Handles needed) Hinged Recessed Handles</p> <p>Duct Supports (only w/ ducts) VP Vertical Duct Support (Telescoping Pole) VB Vertical Duct Support (Cantelevered Arm) VG Vertical Duct Support (Guy Wire Assy) HG Horizontal Duct Support (Guy Wire Assy)</p> <p>Controls M Manual VAV (standard) L Local VAV Control with Remote Temp Sensor B Building Automation System Compatible</p> <p>Air Distribution GRL Floor Grilles (standard) REG Floor Registers 6LD 6' Low Velocity Anti-Static Fabric Ductwork 6HD 6' High Velocity Anti-Static Fabric Ductwork 8LD 8' Low Velocity Anti-Static Fabric Ductwork 8HD 8' High Velocity Anti-Static Fabric Ductwork</p>
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Air Discharge Options



Vertical

Horizontal

* Note the omni-throw option include both vertical & horizontal capabilities.

Unit Specifications

		Booster Blower								
		B1			B1.5			B2		
Parameter		FT	FS	NF	FT	FS	NF	FT	FS	NF
Air Side	Nom. Flow (CFM)	400			600			800		
	ESP (in w.c.)	0.25								
	Horiz. Throw (Ft)	3' from two 6' or 8' tall vertical, flexible, anti-static fabric ducts								
	Vert. Throw (Ft)	8' from floor register								
Filter(s)	1" Disposable	Incl	Incl	N/A	Incl	Incl	N/A	Incl	Incl	N/A
Blower	Airfoil	Backward Curved (non-overloading), Variable Air Volume								
	Bearings	Sealed Ball Bearings (no maintenance)								
	Lubrication	Permanent								
Electrical Data	Volts-Phase-Hz	120-1-60								
	Watts (Nom)	200			240			350		
	Amps (Nom)	1.65			2.00			2.95		
	Motor Protection	Internal Thermal OL w/Auto Reset + Supplemental Time Delay Fuse								
	MOCP	15A								
Tile Load Rating	Lbs/SF	150								
Operating Weight	Lbs	68	65	60	70	67	62	72	69	64

Notes:

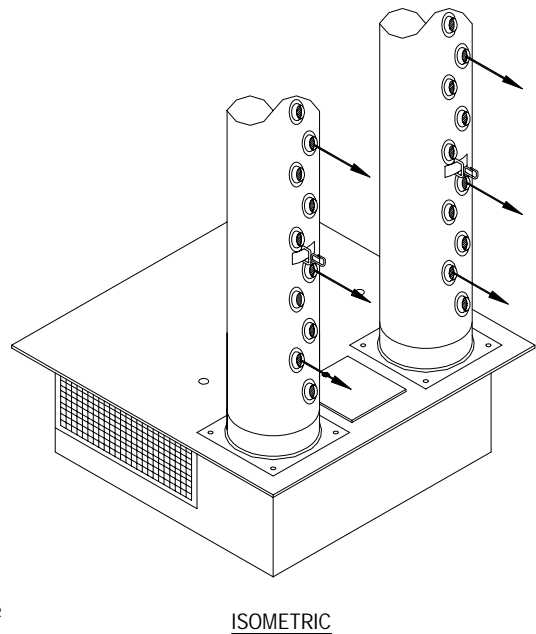
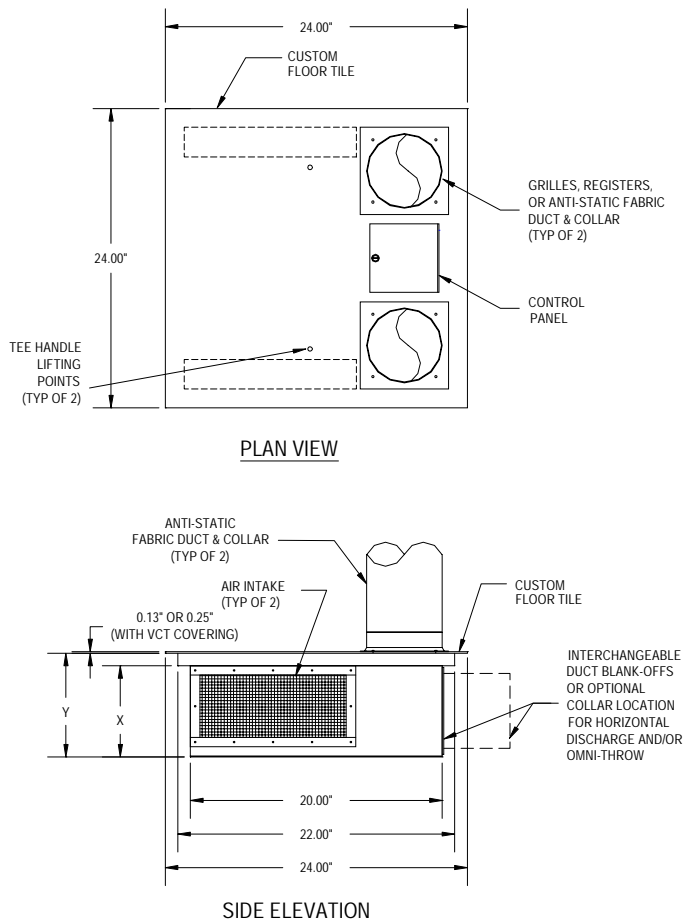
All specifications and sizes are subject to change without notification.

Refer to submittals for updated information.

Custom designs are available in large quantities.

Physical Dimensions

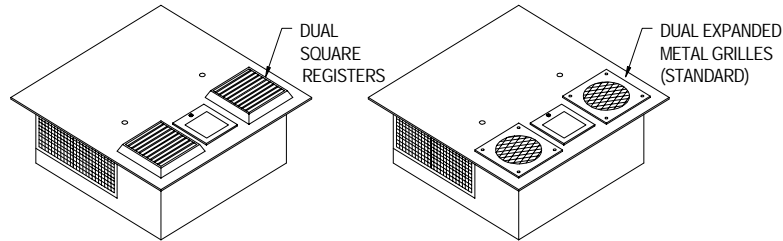
Fits into a standard 24"x24" raised floor grid with a minimum depth of as little as 7" below the raised floor. Note that clearance should be provided under or around the InViroPak R.A.D. unit to accommodate airflow for other R.A.D. units in the same area.



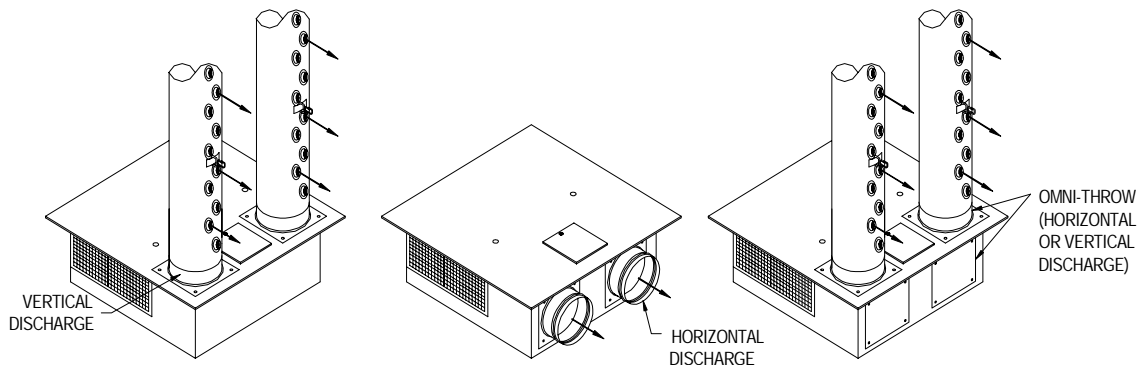
DIMENSION	MODEL								
	B1			B1.5			B2		
	FT	FS	NF	FT	FS	NF	FT	FS	NF
X	7.13"	7.13"	5.88"	9.63"	9.63"	7.13"	12.13"	12.13"	8.38"
Y	8.25"	8.25"	7"	10.75"	10.75"	8.25"	13.25"	13.25"	9.5"

Options

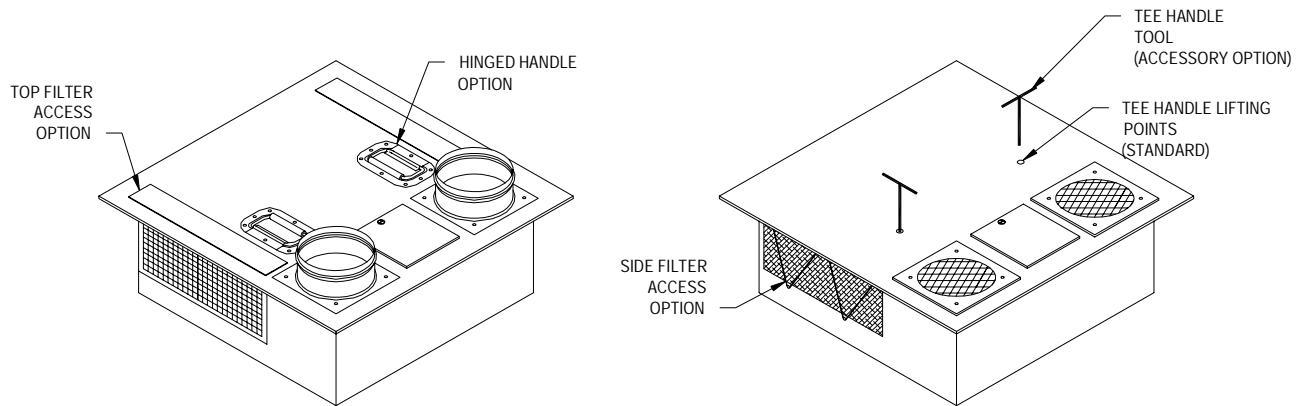
Filters, Building Automation System interface, automatic VAV, paint/colors, higher air flow rates/pres-
 sures, sizes, functions, raised floor load ratings, different air distribution systems/patterns/throws, ...



FLOOR REGISTER/GRILLE OPTIONS

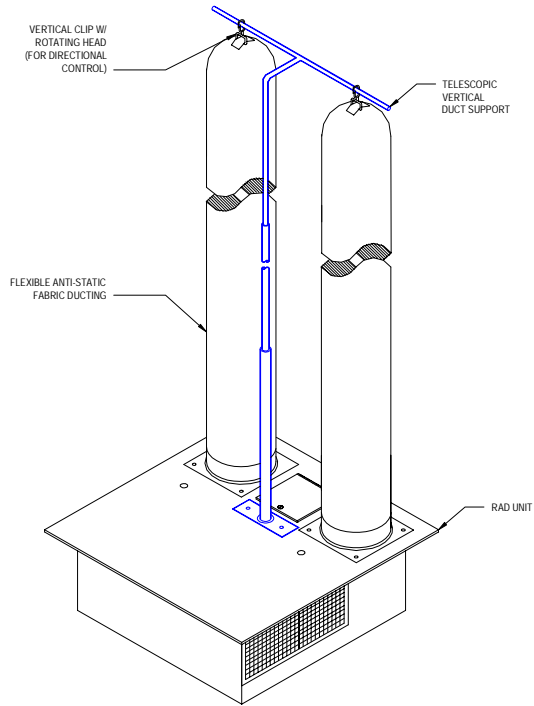


AIR DISTRIBUTION OPTIONS

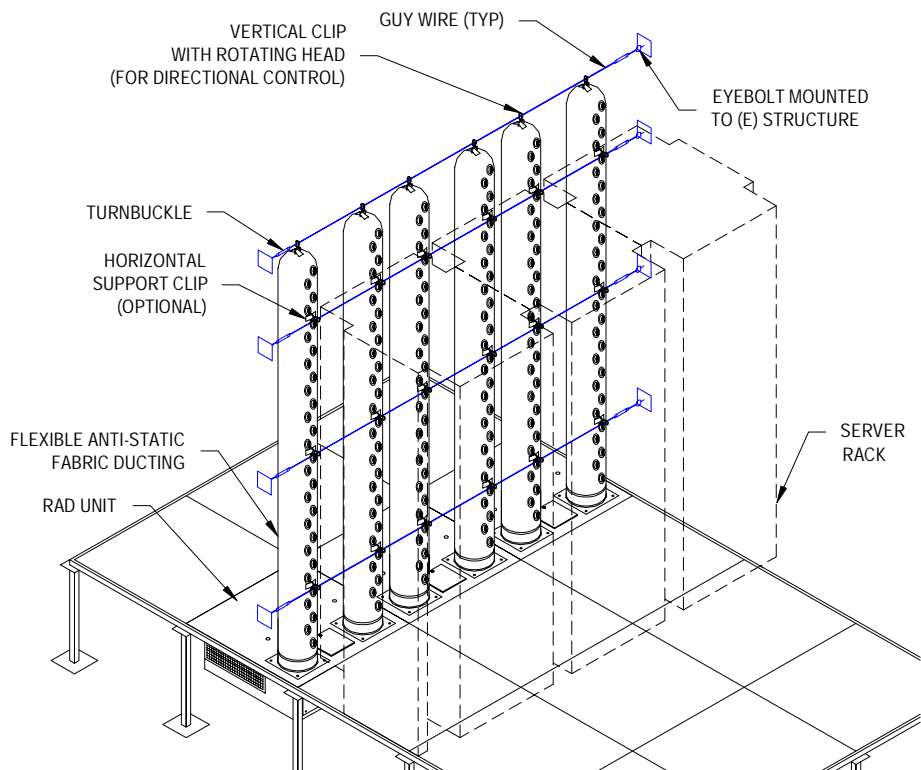


HANDLE AND FILTER OPTIONS

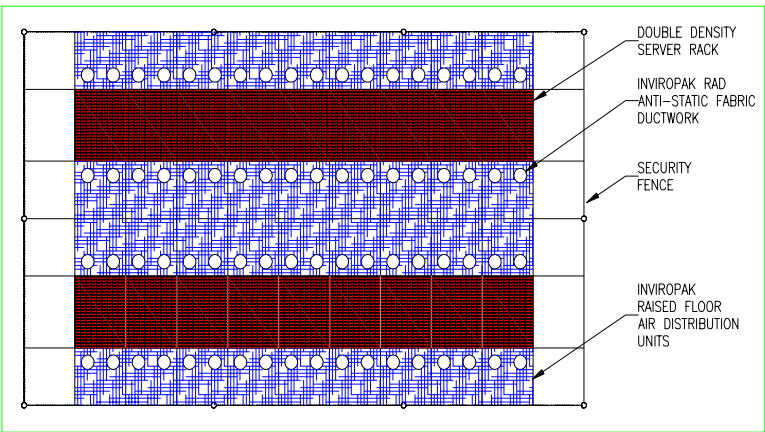
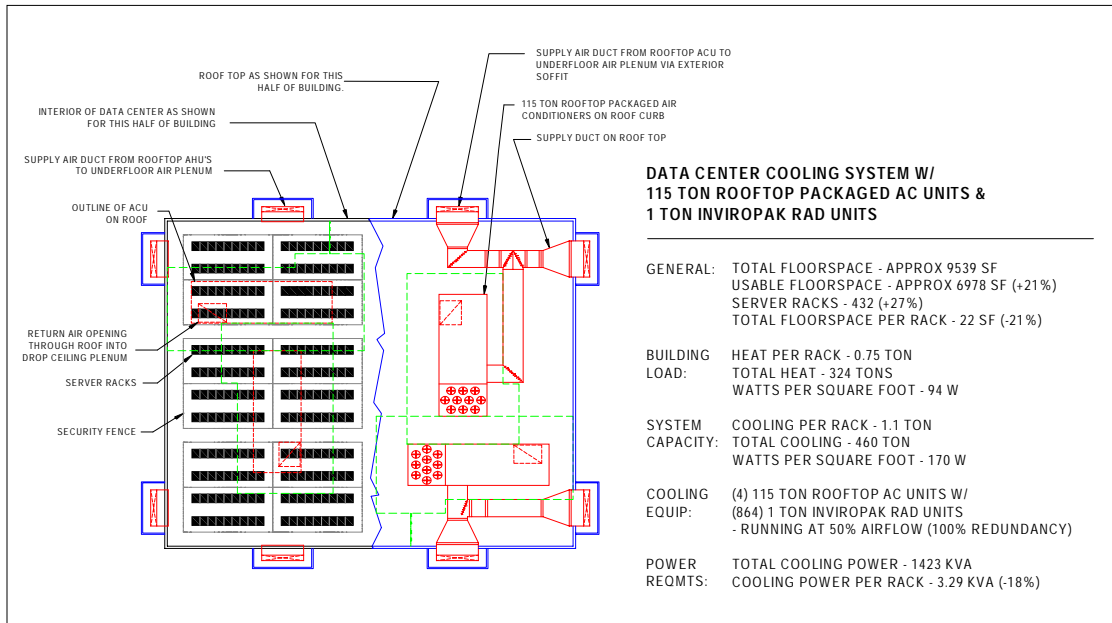
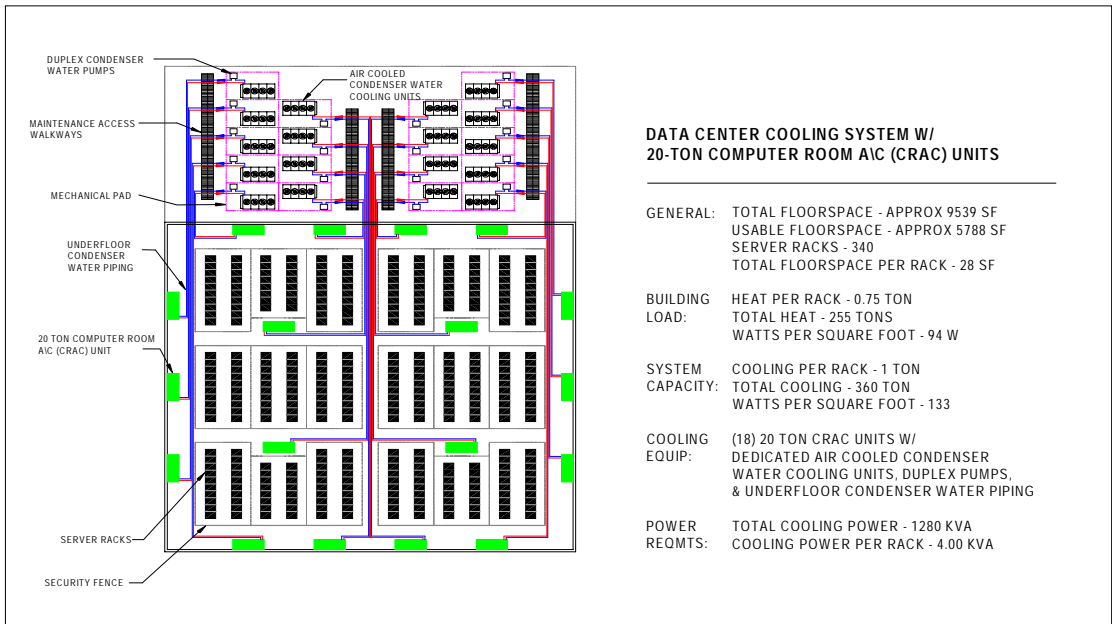
Options (cont.)



TELESCOPIC VERTICAL DUCT SUPPORT OPTION



GUY WIRE DUCT SUPPORT OPTIONS (VERT. & HORIZ.)



INVIROPAK RAD UNIT LAYOUT



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