CONTEG DATASHEET

TOTAL SOLUTIONS FOR DATA CENTERS

PLENUM FEED WITH ROOM RETURN

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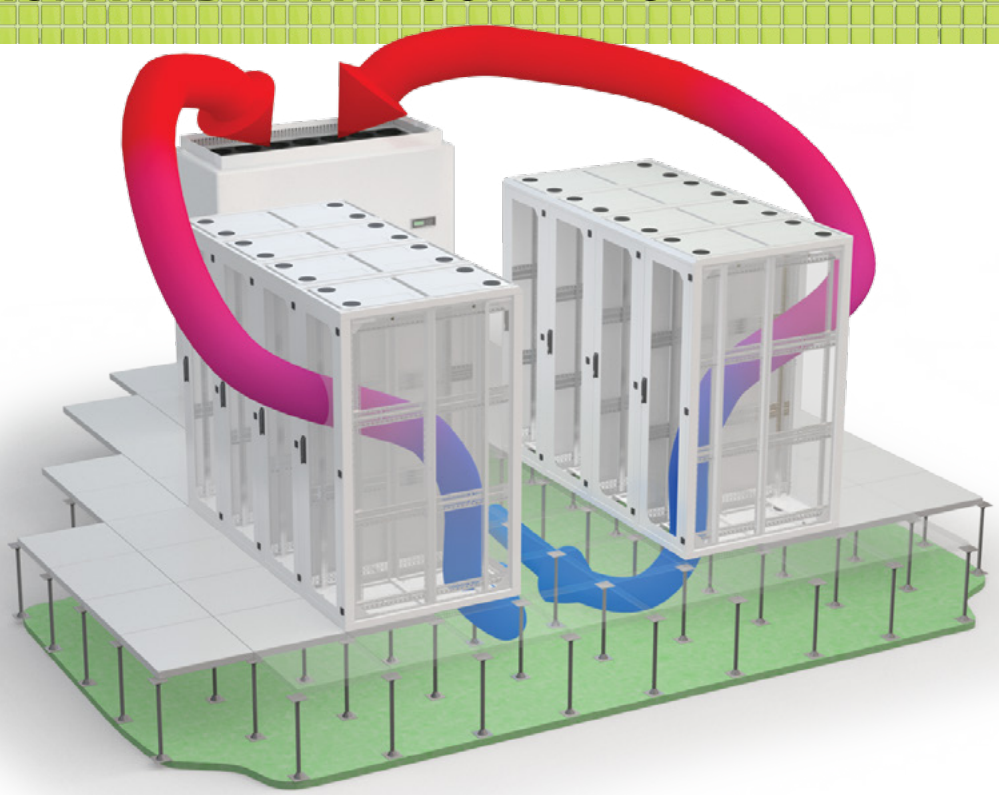
1.5 PLENUM FEED WITH ROOM RETURN

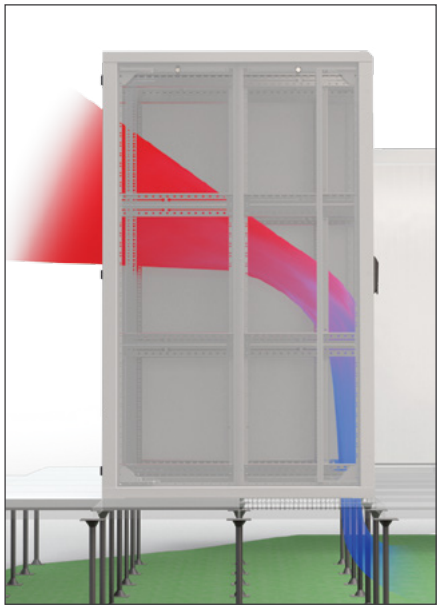


The Conteg Plenum Feed with Room Return solution optimizes the use of cold air by directing this air from the raised floor straight to the equipment within the rack. The rack sits onto a special positioning welded frame (plinth), which replaces a standard 600×600 floor tile.

A deflector located in the bottom of the rack directs the cold air to the front of the rack to be drawn through the equipment mounted inside. A variable flow-regulating louvre can be installed to control airflow throughput or shut the air supply off if no equipment is housed in the rack.

Cold air is kept within the rack by a solid front door which can be either glass or metal depending on preference. An air separation frame is used to create a cold zone in front of the installed equipment. All unused positions should be covered by blank panels to prevent cold air leakage. Hot exhaust air is rejected from the rack into the room through a vented rear door ensuring that cold supply and hot exhaust air streams remain separated, resulting in more efficient use of the cold air and the elimination of hotspots.

One significant advantage of the Plenum Feed Room Return system is the flexibility of floor planning. Dedicated hot and cold aisles are no longer required as the rack contains and separates the hot and cold airstreams.



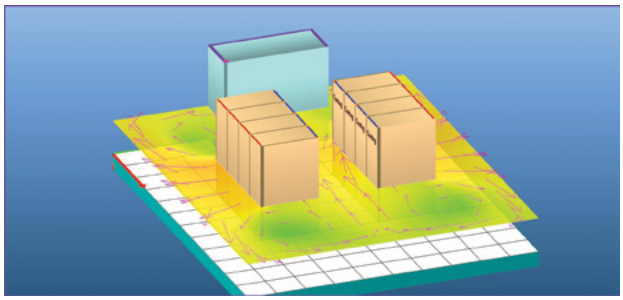
Cold air is directed to the cold zone by a deflector. A cold zone is created by an air separation frame, blank panels and a solid front door. The hot air leaves rack through a super-vented door.

An air flow deflector is used to direct the cold air (which is coming from raised floor plenum) to the front part of rack. A louvre can be used to stop the air intake if no equipment is installed.

A positioning welded frame replaces floor tile and allows the rack to be well positioned on the raised floor construction.

COOLING

In the Plenum Feed with Room Return design, the cold air is usually produced by a central room cooling system with perimeter positioned close control units. The raised floor is used as a cold air handling plenum. The cold air directly enters the front part of rack via the positioning plinth and deflector. This makes both air streams, cold and hot, separated so any mixing is prevented.



RECOMMENDED RACK SERIES

Rack	Description	Read more
PREMIUM Server RSF	PREMIUM rack series, highly configurable with load rating up to 1500 kg	36
PREMIUM Cabling RDF	PREMIUM rack series provides maximum compatibility with Targeted Cooling solutions and is developed for cabling support; load rating up to 800 kg	32
OPTIMAL ROF	OPTIMAL rack series, highly configurable with load rating up to 800/1100 kg, for racks that are 1200 mm deep – 1100 kg	45

- Front glass door with multipoint swivel handle lock (universal key)
- Rear vented door (83% perforation rate) with multipoint swivel handle lock (universal key)
- Removable sheet steel side panels with lock (universal key)
- Two pairs of 19" vertical sliding extrusions
- Top and bottom openings for cable entry
- Adjustable feet as standard; combined with positioning plinth DP-PRF-ROF-60/60 (frame not included)

Protection rating IP20, load rating ROF & RDF - 800/1100 kg, RSF – 1 500 kg, (for ROF racks 1 200 mm deep – 1 100 kg), color black RAL 9005 (optionally light gray RAL 7035). For detailed technical information on RSF, RDF and ROF racks please refer to pages 27 & 45.

Code [1]
RSF-42-60/10T-GWWWA-2EF-H
RSF-45-60/10T-GWWWA-2EF-H
RSF-42-60/12T-GWWWA-2EF-H
RSF-45-60/12T-GWWWA-2EF-H
RSF-42-80/10U-GWWWA-2EF-H
RSF-45-80/10U-GWWWA-2EF-H
RSF-42-80/12U-GWWWA-2EF-H
RSF-45-80/12U-GWWWA-2EF-H

Code [1]
RDF-42-80/10C-GWWWA-2H5-H
RDF-45-80/10C-GWWWA-2H5-H
RDF-42-80/12C-GWWWA-2H5-H
RDF-45-80/12C-GWWWA-2H5-H

Code [1]
ROF-42-60/100-GWWWA-205-H
ROF-45-60/100-GWWWA-205-H
ROF-42-60/120-GWWWA-20A-H
ROF-42-80/10C-GWWWA-205-H
ROF-45-80/10C-GWWWA-205-H
ROF-42-80/12C-GWWWA-20A-H

[1] *All racks in black; 48U height available; for gray – simply change H in the end of the code to B*

RELATED PRODUCTS

Related products	Description	Read more
Air separation frame	Prevent by-pass airflow between frame and 19" extrusion to optimize cooling of equipment	112
Positioning plinth	The rack sits onto a special welded plinth, which replaces a standard 600×600 floor tile	136
Air flow deflector	Used to lead the cold air directly to the cold zone in front part of a rack	112
Cable entries	Products for passage of cabling/pipes through raised floor with minimal loss of air pressure	138
Brackets	Needed when vertical PDU installation into rack is planned	126
Blank panels	Prevent cold air by-pass through unused U positions	112

BASIC PLENUM FEED WITH ROOM RETURN DESIGN GUIDELINES

- Typically for heat loads of 4.5 kW to 6 kW per cabinet
- 42U to 48U – 600 mm or 800 mm wide cabinets – 1000 mm or 1200 mm deep cabinets
- Positioning plinth when using 600 mm wide cabinets
- Air separation frames – 50 mm to 200 mm deep
- Front glass door
- 83% vented rear door
- Air flow deflector optionally with louvers
- Double brush grommets for cable entries
- Blanking panels for all vacant equipment mounting locations in cabinets
- Monitoring environmental conditions in the cabinet

Note: This configuration has many variables, such as supply air volume and velocity along with the type and position of the equipment mounted in the cabinet. Conteg product specialists are available to assist with details related to designing or using this configuration.