

FEDI® GIGA

Q-Connect Stack Assembly



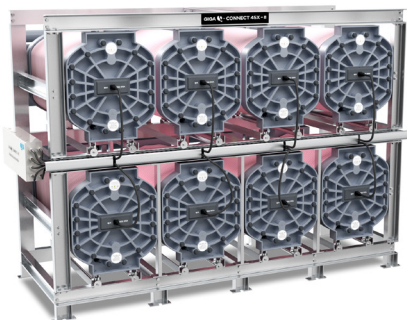
FEDI-GIGA is a next generation fractional electro-deionization stack that is designed to produce ultra-pure water with a high flow capacity. It can minimise associated piping and instruments due to its unique design feature of having one inlet and two outlet ports. It is the first electro-deionization stack with three ports—Feed, Product, and Reject port.

FEDI GIGA Q-Connect is pre-engineered FEDI GIGA electrodeionization stack rack solution designed keeping in view of the requirement of reduced foot print, reduced man-hours, high flow, ease of installation and engineering containerized electrodeionization system. FEDI GIGA Q-Connect assembly is done at site and comes with assembly instructions.

The design comes with entire rack, piping and electrical arrangements. These stacks are connected to each other with the help of headers and victaulic connections provided. The entire assembly MOC is designed keeping in mind corrosive conditions. The FEDI GIGA stacks within the Q-Connect are provided with metallic rollers which are placed on railings which can be used for ease of maintenance of FEDI GIGA stacks in case on any maintenance activity. Each stack is secured on the railings using a locking arrangement making the system safe for operation. The entire skid can be anchor fastened.

Quality Assurance Standards

Each stack is CE marked and factory tested to meet strict industry standards and is manufactured in an ISO 9001 and ISO 14001 quality and environmental management system.



Features

- Modular scheme with high flow
- Complete assembly with header connection frontal piping
- Victaulic connection for faster header assembly
- Common junction box arrangement for ease of DC electrical connection
- Stacks with roller arrangement for ease of maintenance
- Non-metallic piping and Victaulic connections for corrosive environment
- CE certified electrical connections and cables
- Multiple parallel connections between GIGA Q-Connect for high flow requirements
- Number of variants to cover major flow rate.
- No Chlorine gas generation in the reject line. (No pre-treatment for RO feed)
- Minimum Headers (Feed, Product & Reject headers)
- Minimum piping and instrumentation
- Single voltage operation
- Ultra-pure water quality up to 18.2 MΩ.cm
- Silica and Boron removal up to 99%
- Low footprint / m³

Feed Water Specification

Parameters	Unit	Specifications
Feed Conductivity Equivalent (FCE) Including CO ₂ *	μS/cm	<40
pH	-	6-9
Silica (Reactive)	ppm	< 1.0
Total Hardness as CaCO ₃	ppm	< 1.0
TOC	ppm	< 0.5
Heavy Metals (Fe, Mn, etc.)	ppm	< 0.01
Free Chlorine as Cl ₂	ppm	< 0.05
Feed Water SDI	-	< 1.0

*Feed Conductivity Equivalent, FCE (μS/cm) = Feed water conductivity (us/cm) + ppm CO₂ x 2.83 + ppm SiO₂ x 2.0

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Product Water Specification

Parameters	Unit	Specification
Product Resistivity	MΩ.cm	Up to 18*
Silica (SiO ₂) Reduction	%	Up to 99*
Boron Reduction	%	Up to 99*

*Refer to FEDI software tool for actual performance

Flow Specifications

Parameters	Unit	GIGA Q-Connect 30X					GIGA Q-Connect 45X				
Variants		2	3	4	6	8	2	3	4	6	8
Typical Product Flow	m ³ /h	16	24	32	48	64	24	36	48	72	96
	gpm	70	106	141	211	282	106	159	211	317	423
Max. Product Flow	m ³ /h	20	30	40	60	80	30	45	60	90	120
	gpm	88	132	176	264	352	132	198	264	396	528
Min. Product Flow	m ³ /h	12	18	24	36	48	18	27	36	54	72
	gpm	54	79	106	159	211	79	119	159	238	317
Max. Reject Flow	m ³ /h	1.8	2.7	3.6	5.4	7.2	2.7	4.5	5.4	9.0	12.0
	gpm	8	11.9	15.9	23.8	31.7	11.9	19.8	23.8	39.6	54
Min. Reject Flow	m ³ /h	1.4	2.1	2.8	4.2	5.6	2.1	3.0	4.2	6.0	8.0
	gpm	6.2	9.2	12.3	18.5	24.7	9.2	13.2	18.5	26.4	35.2

* Design product flow will be based on FEDI projection.

Electrical Operating Parameters

Parameters	Unit	GIGA Q-Connect 30X					GIGA Q-Connect 45X				
Variants		2	3	4	6	8	2	3	4	6	8
Typical Voltage	VDC	250	250	250	250	250	350	350	350	350	350
Maximum Voltage	VDC	500	500	500	500	500	600	600	600	600	600
Typical Current	AMP	18	27	36	54	72	18	27	36	54	72
Maximum Current	AMP	24	36	48	72	96	24	36	48	72	96

FEDI® GIGA

Q-Connect Stack Assembly



Operating Condition

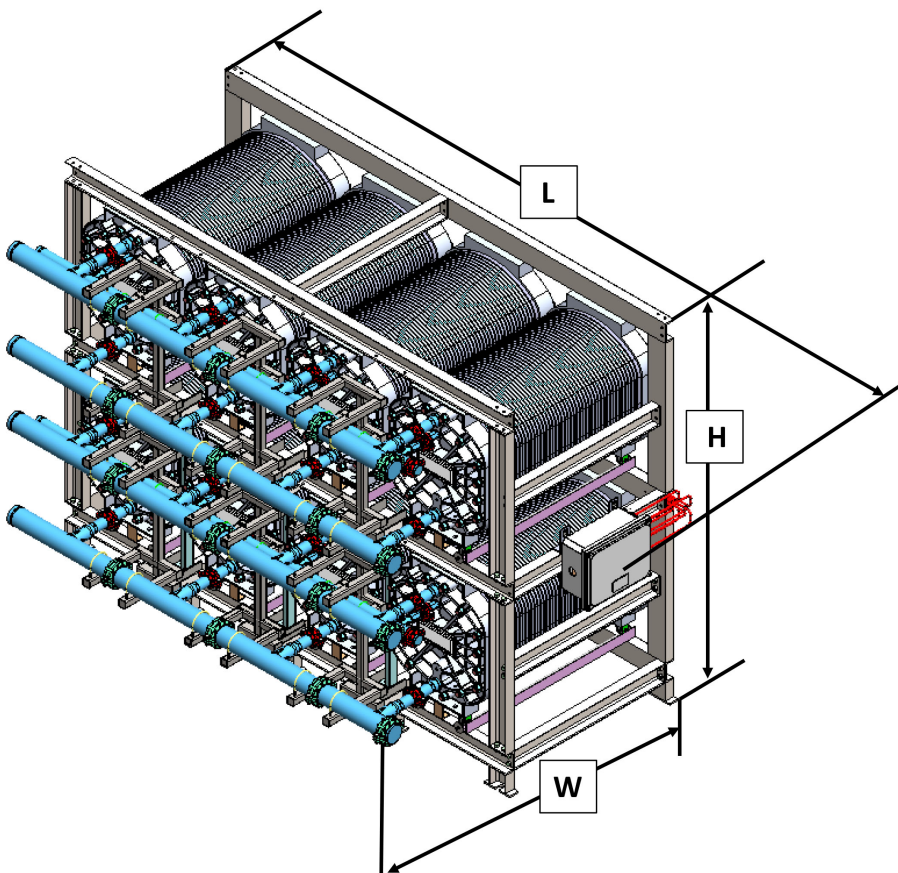
Parameters	Unit	Q-Connect 30X / 45X
Recovery	%	Up to 95
Feed Water Temperature	°C °F	5 – 40 41 - 104
Pressure Drop (Feed to Product) @ Typical Flow	bar psi	1.4 – 2.0 20 – 30
Recommended Operating Pressure	bar psi	< 4.8 < 70
Maximum Feed Pressure	bar psi	7 100

Dimensions and Hardware MOC

Parameters	Unit	GIGA Q-Connect 30X					GIGA Q-Connect 45X				
Variants		2	3	4	6	8	2	3	4	6	8
Stack Weight	Kg	500	750	32	48	64	24	36	48	72	96
	Lbs	1102	1654	141	211	282	106	159	211	317	423
Rack Weight	Kg	125	180	40	60	80	30	45	60	90	120
	Lbs	276	397	176	264	352	132	198	264	396	528
Shipping Weight (Net)	Kg	825	1130	24	36	48	18	27	36	54	72
	Lbs	1819	2491	106	159	211	79	119	159	238	317
Length (L)	mm	1545	2140	3.6	5.4	7.2	2.7	4.5	5.4	9.0	12.0
	inch	61	84	15.9	23.8	31.7	11.9	19.8	23.8	39.6	54
Width (W)	mm	1202	1202	1202	1202	1202	1465	1465	1465	1465	1465
	inch	47	47	47	47	47	58	58	58	58	58
Height (H)	mm	1070	1070	1930	1930	1930	1070	1070	1930	1930	1930
	inch	42	42	76	76	76	42	42	76	76	76
Feed Terminal (N1) Product Terminal (N2) Reject Terminal (N3)	3" Victaulic 3" Victaulic 1.5" Victaulic										
Header MOC Victaulic MOC	PPCP GF Nylon										
Rack MOC	SS 304										

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Q-Connect Stack Assembly



Electrical Terminal Points with Quantities and Specifications

Parameters	Unit	GIGA Q-Connect 30X					GIGA Q-Connect 45X				
Variants		2	3	4	6	8	2	3	4	6	8
No. of input and output DC Electrical cables	Nos	2	3	4	6	8	2	3	4	6	8
Connector details (Inside Junction box)		Rated Voltage: 1000 V Rated current: 41A Housing Material : Polyamide					Rated Voltage: 1000 V Rated current: 41A Housing Material : Polyamide				
Junction box dimensions (L x B x H)	mm	310 x 310 x 170		370 x 290 x 175			310 x 310 x 170		370 x 290 x 175		

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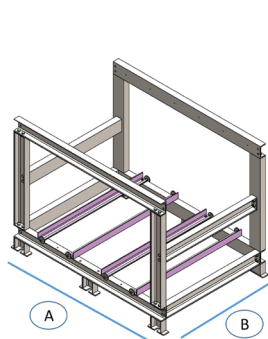
Q-Connect Stack Assembly



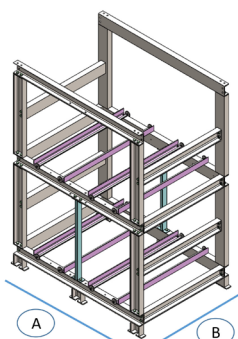
Skid anchoring Detail

Parameters	Unit	GIGA Q-Connect 30X					GIGA Q-Connect 45X				
Variants		2	3	4	6	8	2	3	4	6	8
Anchor bolt details		M18					M18				
No. of anchor hole		6	8	6	8	10	6	8	6	8	10
*Anchor center to center distance (A)	mm inch	1290 51	1890 74	1290 51	1890 74	2490 98	1290 51	1890 74	1290 51	1890 74	2490 98
*Anchor center to center distance (B)	mm inch	695 27	695 27	695 27	695 27	695 27	695 27	940 37	940 37	940 37	940 37

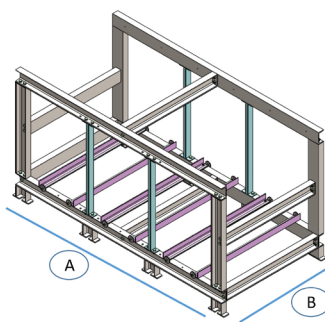
*Basic dimension, contact QUA for detailed drawing



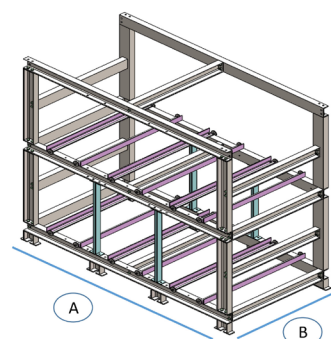
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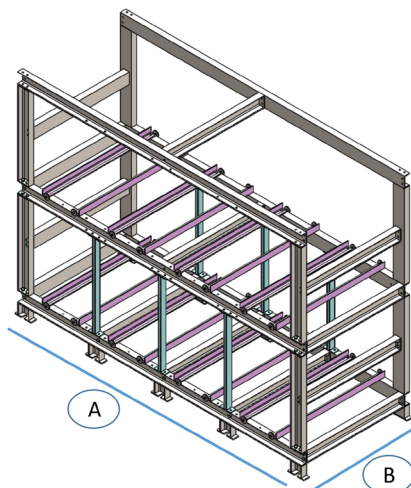
GIGA Q-Connect 30X/45X – 4



GIGA Q-Connect 30X/45X – 3



GIGA Q-Connect 30X/45X – 6



GIGA Q-Connect 30X/45X – 8

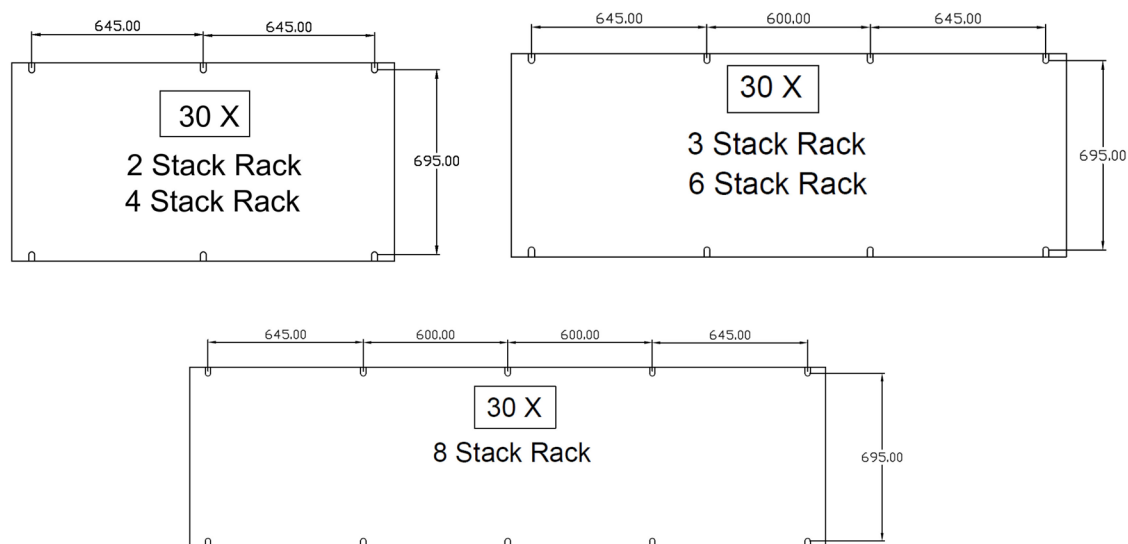
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Q-CONNECT STACKS ASSEMBLY



Detailed Dimensional Drawing for Anchoring

GIGA Q-CONNECT 30X



GIGA Q-CONNECT 45X

