39K Air Handling Units

FROM OUR GURUGRAM FACTORY, ESPECIALLY FOR YOU

Founded by the inventor of modern air conditioning, Carrier is a world leader in high-technology heating, air-conditioning and refrigeration solutions. Carrier experts provide sustainable solutions, integrating energy-efficient products, building controls and energy services for residential, commercial, retail, transport and food service customers.

From the invention of the first centrifugal chiller 100 years ago to today's highly efficient screw chiller, Carrier has consistently paved the way towards efficient and reliable solutions. Providing smart and sustainable solutions with Made in India products, Carrier's comprehensive range of offerings is suitable for varied customer applications.

Carrier's comprehensive range of offerings:

- Air-Cooled Screw Chillers
- Water-Cooled Screw Chillers
- Ducted Air Conditioners
- Cassette Air Conditioners
- Fan Coil Air Conditioning Units
- Floor Standing Air Conditioning Units

Certifications

INDIA RESEARCH & DEVELOPMENT CENTRE (IRDC)

Carrier was built on a legacy of innovation, beginning with our founders. We are innovators at heart and inventors by heritage. Today, building on our history of firsts, we're boldly advancing the industries we created to make a difference in people's lives. Backed by a state-of-the-art R&D centre in Gurugram, our pursuit for excellence revolves around developing products and solutions for all customer verticals.

An integral part of our IGBC-platinum-accredited Gurugram factory, the India Research & Development Centre (IRDC) houses a number of test facilities for state-of-the-art performance and reliability testing so that we can deliver the ideal HVAC solution.

Certifications

National Accreditation Board for Testing and Calibration Laboratories

Air-Conditioning, Heating, and Refrigeration Institute

International Laboratory Accreditation Cooperation

Carrier Expert Centre (CEC) Gurugram

With a focus on elevating our customers' experience, Carrier India introduced the Carrier Expert Centre in its Gurugram campus. This is a dedicated and immersive exhibit to provide an unmatched experience of Carrier's HVAC solutions.

Showcasing a wide range of products, it is our aim to help our customers dive into the world of latest innovations driven by our legacy of excellence.

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39K Modular
Air Handling Unit

General Specifications

Airflow
from **1,100** m3/h
from **1,00,000** m3/h

Up to **87%**
of energy recovery efficiency

14
sizes

DURABLE AND TIGHT STRUCTURE

RELIABLE COMPONENTS

SMART CONTROLS

USER SAFETY

Technical Specifications

STRUCTURE

PROFIL V
39K 021-180

PROFIL C
39K 230-650

ALUMINUM POSTS OF SPECIAL CONSTRUCTION IN EACH AHU TYPE

STEEL BASE FRAME AS **STANDARD** FOR ANY TYPE OF UNIT

FOUNDATION

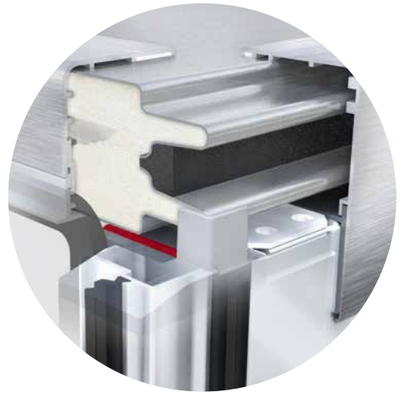
- Transport facilitation.
- High resistance of the frame to deflection.

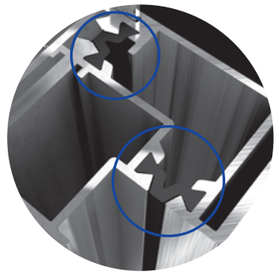
STRUCTURAL POSTS

- Broken thermal bridges are standard.
- High resistance to weather conditions and UV radiation.

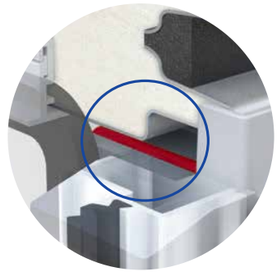
Technical Specifications

TIGHTNESS





THERMAL BREAK



LABYRINTH TIGHTENING

ADDITIONAL POST SEALING

ADDITIONAL SEALING BLADE

CANOPY

- The canopy is made of a 0.5 mm steel sheet, double side coated with 185 um of zinc (DX51D AZ185).
- Canopy is assembled with modules equipped with self-latching grooves securing perfect tightness of the joints. Modular structure of the canopy ensures its easy and safe assembly.

ERGONOMIC INSPECTION PANEL LOCK

- Highly aesthetic and ergonomic handles securing perfect tightness of inspection panels.

ALUMINUM STRUCTURAL POSTS WITH ADDITIONAL SEALING BLADE AND THERMAL BREAK

- Broken thermal bridges are standard and eliminate humidity condensation on the units' structural elements.
- Blade along the inspection window ensures labyrinth tightening between panel and AHU body – currently the most effective solution on the market, mainly applied to laboratory equipment.
- Symmetrical groove in the vertical post's mounting feet secures its 100% tightness with the AHU casing structure.

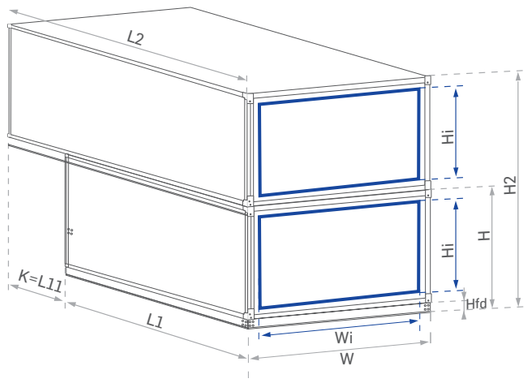
39K 021-120 – RECUPERATOR – CROSS-FLOW PLATE EXCHANGERS

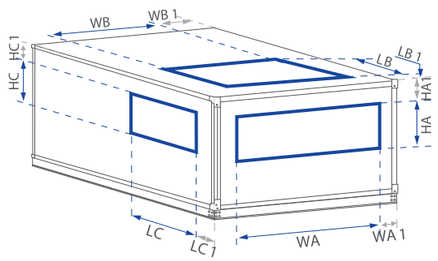
Nominal parameters — Recommended airflow range

Unit size		39K021			39K030			39K040			39K055			39K075			39K100			39K120		
		+	⊗	−	+	⊗	−	+	⊗	−	+	⊗	−	+	⊗	−	+	⊗	−	+	⊗	−
Min. airflow	[m³/h]	806	806	806	1,180	1,180	1,180	1,958	1,958	1,958	2,878	2,878	2,878	3,805	3,805	3,805	4,863	4,863	4,863	5,815	5,815	5,815
Max. airflow	[m³/h]	2,730	2,184	2,163	3,900	3,120	3,090	5,200	4,160	4,120	7,150	5,720	5,665	9,750	7,800	7,725	13,000	10,400	10,300	15,600	12,480	12,360
H_{fd}	[mm]	90			90			90			90			90			90			90		
H_{fu}	[mm]	-			-			-			-			-			-			-		
H	[mm]	538			670			670			805			925			1,025			1,062		
W	[mm]	961			961			1,168			1,339			1,480			1,660			1,891		
H_i	[mm]	368			500			500			635			755			855			892		
W_i	[mm]	881			881			1,088			1,259			1,400			1,580			1,811		
H_2	[mm]	986			1,250			1,250			1,520			1,760			1,960			2,034		
I	[mm]	40			40			40			40			40			40			40		

Selected configurations Dimensions — Length of selected configurations

		+	⊗	−	+	⊗	−	+	⊗	−	+	⊗	−	+	⊗	−	+	⊗	−	+	⊗	−
FPDV/FVPD_cd	L2	2,221			2,221			2,221			2,953			2,953			3,318			3,318		
	L1	2,221			2,221			2,221			2,953			2,953			3,318			3,318		
	K	-			-			-			-			-			-			-		
	Lt	2,221			2,221			2,221			2,953			2,953			3,318			3,318		
FPDV/FPDV_pd	L2	2,221			2,221			2,221			2,953			2,953			3,318			3,318		
	L1	2,221			2,221			2,221			2,953			2,953			3,318			3,318		
	K	-			-			-			-			-			-			-		
	Lt	2,221			2,221			2,221			2,953			2,953			3,318			3,318		
FPDCV/FVPD_cd	L2	2,221			2,221			2,221			2,953			2,953			3,318			3,318		
	L1	2,587			2,587			2,587			3,318			3,318			3,684			3,684		
	K	-			-			-			-			-			-			-		
	Lt	2,587			2,587			2,587			3,318			3,318			3,684			3,684		
FPDMCV/FVMPD_cd	L2	3,318			3,318			3,318			4,050			4,050			4,415			4,415		
	L1	3,318			3,318			3,318			4,050			4,050			4,415			4,415		
	K	-			-			-			-			-			-			-		
	Lt	3,318			3,318			3,318			4,050			4,050			4,415			4,415		
FPDMCVH/FVMPD_cd	L2	3,684			3,684			3,684			4,415			4,415			4,781			4,781		
	L1	3,318			3,318			3,318			4,050			4,050			4,415			4,415		
	K	366			366			366			365			365			366			366		
	Lt	3,684			3,684			3,684			4,415			4,415			4,781			4,781		





DIMENSIONS – 39K021-39K120 – RECUPERATOR – CROSS-FLOW PLATE EXCHANGERS

Opening BIG (inlet-outlet) END (FF)

Size	WA	HA	WA1	HA1
39K021	500	210	230	119
39K030	700	210	130	185
39K040	600	310	284	135
39K055	850	310	244	202
39K075	900	400	290	217
39K100	1,200	400	230	267
39K120	1,400	400	245	286

Opening SMALL (inlet-outlet) END (FS)

Size	WA	HA	WA1	HA1
39K021	150	112	405	168
39K030	200	112	380	234
39K040	250	112	459	234
39K055	350	112	494	301
39K075	500	112	490	361
39K100	350	210	655	362
39K120	400	210	745	381

Opening BIG (inlet-outlet) END (US)

Size	WA	HA	WA1	HA1
39K021	500	210	230	120
39K030	700	210	130	120
39K040	600	310	284	120
39K055	850	310	244	120
39K075	900	400	290	120
39K100	1,200	400	230	120
39K120	1,400	400	245	120

Opening SMALL (inlet-outlet) END (US)

Size	WA	HA	WA1	HA1
39K021	150	112	405	120
39K030	200	112	380	120
39K040	250	112	459	120
39K055	350	112	494	120
39K075	500	112	490	120
39K100	350	210	655	120
39K120	400	210	745	120

Opening BIG (inlet-outlet) END (BS)

Size	WA	HA	WA1	HA1
39K021	112	150	120	149
39K030	112	200	120	190
39K040	112	250	120	165
39K055	112	350	120	182
39K075	112	500	120	167
39K100	210	350	120	292
39K120	210	400	120	286

Opening SMALL (inlet-outlet) END (FF)

Size	WA	HA	WA1	HA1
39K021	821	313	70	70
39K030	821	440	70	70
39K040	1,028	440	70	70
39K055	1,199	575	70	70
39K075	1,340	695	70	70
39K100	1,520	795	70	70
39K120	1,751	832	70	70

FAN OUTLET OPENINGS

Plug Fan END (FS)

Size	WA	HA	WA1	HA1
39K021	500	210	230	119
39K030	700	210	130	185
39K040	600	310	284	135
39K055	850	310	244	202
39K075	900	400	290	217
39K100	1,200	400	230	267
39K120	1,400	400	245	286

DIDW END (FS)

Size	WA	HA	WA1	HA1
39K021	206	206	377	84
39K030	256	256	352	142
39K040	288	288	441	92
39K055	408	408	340	84
39K075	452	452	420	94
39K100	510	510	480	112
39K120	572	572	480	88

Plug Fan END (US)

Size	WA	HA	WA1	HA1
39K021	500	210	230	119
39K030	700	210	130	185
39K040	600	310	284	135
39K055	850	310	244	202
39K075	900	400	290	217
39K100	1,200	400	230	267
39K120	1,400	400	245	286

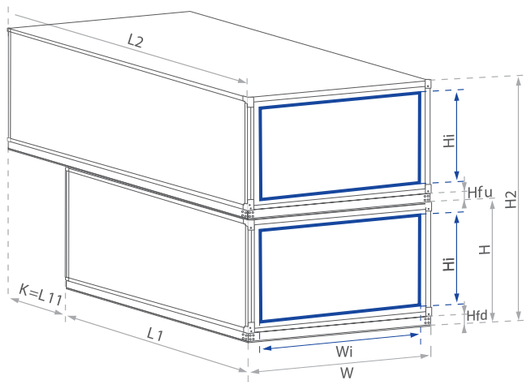
DIDW END (US)

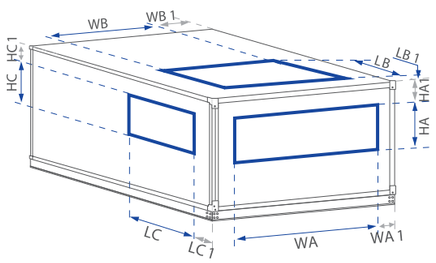
Size	WA	HA	WA1	HA1
39K021	206	206	377	307
39K030	256	256	352	322
39K040	288	288	441	336
39K055	408	408	340	390
39K075	452	452	420	390
39K100	510	510	480	420
39K120	572	572	480	480

39K 150-650 – RECUPERATOR – CROSS-FLOW PLATE EXCHANGERS

Nominal parameters		Recommended airflow range																		
Unit size		39K150			39K180			39K230			39K300			39K400			39K500			39K650		
90,000 / 60,000 / 30,000 / 0	[m³/h]																					
		+	⊗	−	+	⊗	−	+	⊗	−	+	⊗	−	+	⊗	−	+	⊗	−	+	⊗	−
Min. airflow		7,167	7,167	7,167	8,640	8,640	8,640	10,398	10,398	10,398	13,491	13,491	13,491	18,704	18,704	18,704	21,817	21,817	21,817	28,725	28,725	28,725
Max. airflow		19,500	15,600	15,450	23,400	18,720	18,540	29,900	23,920	23,690	39,000	31,200	30,900	52,000	41,600	41,200	71,500	57,200	56,650	84,500	67,600	66,950
H_{fd}	[mm]	90			90			90			120			120			120			120		
H_{fu}		0			0			0			80			80			80			80		
H		1,163			1,397			1,397			1,696			1,929			1,929			2,406		
W		2,085			2,085			2,493			2,585			3,085			3,585			3,697		
H_i		993			1,197			1,197			1,496			1,729			1,729			2,206		
W_i		2,005			2,005			2,413			2,505			3,005			3,505			3,617		
H_2		2,236			2,644			2,644			3,352			3,818			3,818			4,772		
I		40			40			40			40			40			40			40		

Selected configurations Dimensions		Length of selected configurations						
		⊗						
FPDV/FVPD_cd	L2	3,684	3,684	3,684	4,781	4,781	4,781	5,513
	L1	3,684	3,684	3,684	4,781	4,781	4,781	5,513
	K	-	-	-	-	-	-	-
	Lt	3,684	3,684	3,684	4,781	4,781	4,781	5,513
FPDV/FPDV_pd	L2	3,684	3,684	3,684	4,781	4,781	4,781	5,513
	L1	3,684	3,684	3,684	4,781	4,781	4,781	5,513
	K	-	-	-	-	-	-	-
	Lt	3,684	3,684	3,684	4,781	4,781	4,781	5,513
FPDCV/FVPD_cd	L2	3,684	3,684	3,684	4,781	4,781	4,781	5,513
	L1	4,050	4,050	4,050	5,147	5,147	5,147	5,878
	K	-	-	-	-	-	-	-
	Lt	4,050	4,050	4,050	5,147	5,147	5,147	5,878
FPDMCV/FVMPD_cd	L2	5,147	5,147	5,147	6,244	6,244	6,244	6,975
	L1	5,147	5,147	5,147	6,244	6,244	6,244	6,975
	K	-	-	-	-	-	-	-
	Lt	5,147	5,147	5,147	6,244	6,244	6,244	6,975
FPDMCVH/FVMPD_cd	L2	5,513	5,513	5,513	6,610	6,610	6,610	7,341
	L1	5,147	5,147	5,147	6,244	6,244	6,244	6,975
	K	366	366	366	366	366	366	366
	Lt	5,513	5,513	5,513	6,610	6,610	6,610	7,341





DIMENSIONS – 39K150-39K650 – RECUPERATOR – CROSS-FLOW PLATE EXCHANGERS

Opening BIG (inlet-outlet)
END (FF)

Size	WA	HA	WA1	HA1
39K150	1,400	500	342	286
39K180	1,700	500	192	388
39K230	1,800	600	346	338
39K300	2,060	700	262	438
39K400	2,760	700	162	554
39K500	3,060	800	262	504
39K650	3,360	900	168	693

Opening SMALL (inlet-outlet)
END (FS)

Size	WA	HA	WA1	HA1
39K150	500	210	792	431
39K180	600	210	742	533
39K230	550	310	971	483
39K300	700	310	942	633
39K400	900	310	1,092	749
39K500	900	400	1,342	704
39K650	1,150	400	1,273	943

Opening BIG (inlet-outlet)
END (US)

Size	WA	HA	WA1	HA1
39K150	1,400	500	342	120
39K180	1,700	500	192	120
39K230	1,800	600	346	120
39K300	2,060	700	262	120
39K400	2,760	700	162	120
39K500	3,060	800	262	120
39K650	3,360	900	168	120

Opening SMALL (inlet-outlet)
END (US)

Size	WA	HA	WA1	HA1
39K150	500	210	792	120
39K180	600	210	742	120
39K230	550	310	971	120
39K300	700	310	942	120
39K400	900	310	1,092	120
39K500	900	400	1,342	120
39K650	1,150	400	1,273	120

Opening BIG (inlet-outlet)
END (BS)

Size	WA	HA	WA1	HA1
39K150	210	500	120	286
39K180	210	600	120	338
39K230	310	550	120	363
39K300	310	700	120	438
39K400	310	900	120	454
39K500	400	900	120	454
39K650	400	1,150	120	568

Opening SMALL (inlet-outlet)
END (FF)

Size	WA	HA	WA1	HA1
39K150	1,945	933	70	70
39K180	1,945	1,137	70	70
39K230	2,353	1,137	70	70
39K300	2,445	1,436	70	70
39K400	2,945	1,669	70	70
39K500	3,445	1,669	70	70
39K650	3,557	2,146	70	70

FAN OUTLET OPENINGS

Plug Fan
END (FS)

Size	WA	HA	WA1	HA1
39K150	500	210	230	119
39K180	700	210	130	185
39K230	600	310	284	135
39K300	850	310	244	202
39K400	900	400	290	217
39K500	1,200	400	230	267
39K650	1,400	400	245	286

DIDW
END (FS)

Size	WA	HA	WA1	HA1
39K150	642	642	610	98
39K180	718	718	480	162
39K230	804	804	770	112
39K300	902	902	740	172
39K400	1,010	1,010	1,040	470
39K500	1,134	1,134	1,230	102
39K650	1,270	1,270	1,215	180

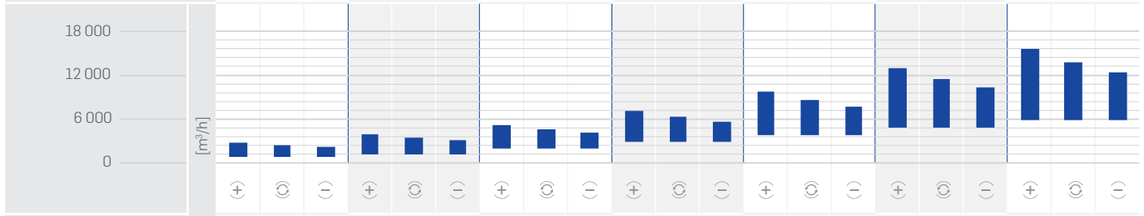
Plug Fan
END (US)

Size	WA	HA	WA1	HA1
39K150	1,400	500	342	286
39K180	1,700	500	192	388
39K230	1,800	600	346	338
39K300	2,060	700	262	438
39K400	2,760	700	162	554
39K500	3,060	800	262	504
39K650	3,360	900	168	693

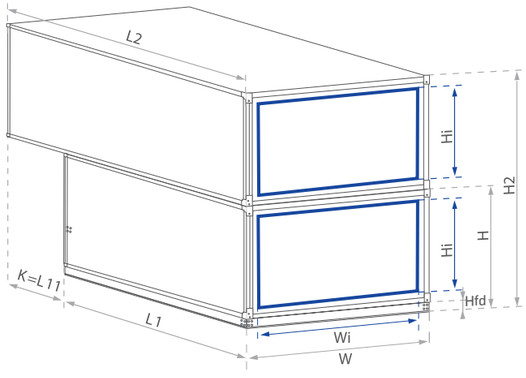
DIDW
END (US)

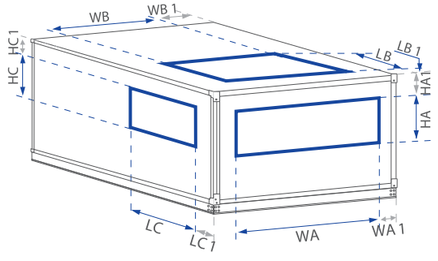
Size	WA	HA	WA1	HA1
39K150	642	642	610	510
39K180	718	718	480	520
39K230	804	804	770	600
39K300	902	902	740	600
39K400	1,010	1,010	1,040	640
39K500	1,134	1,134	1,230	700
39K650	1,270	1,270	1,215	720

39K 021-120 – ROTARY HEAT WHEEL



Nominal parameters		Recommended airflow range																	
Unit size		39K021			39K030			39K040			39K055			39K075			39K100			39K120		
		+	↻	−	+	↻	−	+	↻	−	+	↻	−	+	↻	−	+	↻	−	+	↻	−
Min. airflow		806	806	806	1,180	1,180	1,180	1,958	1,958	1,958	2,878	2,878	2,878	3,805	3,805	3,805	4,863	4,863	4,863	5,815	5,815	5,815
Max. airflow		2,730	2,415	2,163	3,900	3,450	3,090	5,200	4,600	4,120	7,150	6,325	5,665	9,750	8,625	7,725	13,000	11,500	10,300	15,600	13,800	12,360
H_{fd}	[mm]	90			90			90			90			90			90			90		
H_{fu}		0			0			0			0			0			0			0		
H		538			670			670			805			925			1,025			1,062		
W		961			961			1,168			1,339			1,480			1,660			1,891		
H_i		368			500			500			635			755			855			892		
W_i		881			881			1,088			1,259			1,400			1,580			1,811		
H_2		986			1,250			1,250			1,520			1,760			1,960			2,034		
I		40			40			40			40			40			40			40		
Selected configurations	Dimensions	Length of selected configurations																				
FRV/FRV_cd	L2	1,830			1,830			1,830			2,196			2,196			2,562			2,562		
	L1	1,830			1,830			1, 830			2,196			2,196			2,562			2,562		
	K	366			366			366			732			732			1,098			1,098		
	Lt	1,830			1,830			1,830			2,196			2,196			2,562			2,562		
FRMV/FVMR_cd	L2	2,562			2,562			2,562			2,928			2,928			3,294			3,294		
	L1	2,562			2,562			2,562			2,928			2,928			3,294			3 294		
	K	366			366			366			732			732			1,098			1,098		
	Lt	2,562			2,562			2,562			2,928			2,928			3,294			3,294		
FRHV/FRV_cd	L2	1,830			1,830			1,830			2,196			2,196			2,562			2,562		
	L1	2,196			2,196			2,196			2,562			2,562			2,928			2,928		
	K	366			366			366			732			732			1,098			1,098		
	Lt	2,196			2,196			2,196			2,562			2,562			2,928			2,928		
FRMHV/FVMR_cd	L2	2,562			2,562			2,562			2,928			2,928			3,294			3,294		
	L1	2,928			2,928			2,928			3,294			3,294			3,660			3,660		
	K	0			0			0			0			0			0			0		
	Lt	2,928			2,928			2,928			3,294			3,294			3,660			3,660		
FRCV/FRV_cd	L2	1,830			1,830			1,830			2,196			2,196			2,562			2,562		
	L1	2,196			2,196			2,196			2,562			2,562			2,928			2,928		
	K	366			366			366			732			732			1,098			1,098		
	Lt	2,196			2,196			2,196			2,562			2,562			2,928			2,928		
FRMCV/FVMR_cd	L2	2,562			2,562			2,562			2,928			2,928			3,294			3,294		
	L1	2,928			2,928			2,928			3,294			3,294			3,660			3,660		
	K	0			0			0			0			0			0			0		
	Lt	2,928			2,928			2,928			3,294			3,294			3,660			3,660		
FRMCV/FVMR_cd	L2	3,378			3,378			3,378			3,744			3,744			4,110			4,110		
	L1	4,138			4,138			4,138			4,504			4,504			4,870			4,870		
	K	366			366			366									366			366		
	Lt	4,138			4,138			4,138			4,504			4,504			5,236			5,236		





DIMENSIONS – 39K021-39K120 – ROTARY HEAT WHEEL

Opening BIG - (inlet-outlet)
END (FF)

Size	WA	HA	WA1	HA1
39K021	500	210	230	119
39K030	700	210	130	185
39K040	600	310	284	135
39K055	850	310	244	202
39K075	900	400	290	217
39K100	1,200	400	230	267
39K120	1,400	400	245	286

Opening SMALL - (inlet-outlet)
END (FS)

Size	WA	HA	WA1	HA1
39K021	150	112	405	168
39K030	200	112	380	234
39K040	250	112	459	234
39K055	350	112	494	301
39K075	500	112	490	361
39K100	350	210	655	362
39K120	400	210	745	381

Opening BIG - (inlet-outlet)
END (US)

Size	WA	HA	WA1	HA1
39K021	500	210	230	120
39K030	700	210	130	120
39K040	600	310	284	120
39K055	850	310	244	120
39K075	900	400	290	120
39K100	1,200	400	230	120
39K120	1,400	400	245	120

Opening SMALL - (inlet-outlet)
END (US)

Size	WA	HA	WA1	HA1
39K021	150	112	405	120
39K030	200	112	380	120
39K040	250	112	459	120
39K055	350	112	494	120
39K075	500	112	490	120
39K100	350	210	655	120
39K120	400	210	745	120

Opening BIG - (inlet-outlet)
END (BS)

Size	WA	HA	WA1	HA1
39K021	112	150	120	149
39K030	112	200	120	190
39K040	112	250	120	165
39K055	112	350	120	182
39K075	112	500	120	167
39K100	210	350	120	292
39K120	210	400	120	286

Opening SMALL - (inlet-outlet)
END (FF)

Size	WA	HA	WA1	HA1
39K021	821	313	70	70
39K030	821	440	70	70
39K040	1,028	440	70	70
39K055	1,199	575	70	70
39K075	1,340	695	70	70
39K100	1,520	795	70	70
39K120	1,751	832	70	70

FAN OUTLET OPENINGS

Plug Fan
END (FS)

Size	WA	HA	WA1	HA1
39K021	500	210	230	119
39K030	700	210	130	185
39K040	600	310	284	135
39K055	850	310	244	202
39K075	900	400	290	217
39K100	1,200	400	230	267
39K120	1,400	400	245	286

DIDW
END (FS)

Size	WA	HA	WA1	HA1
39K021	206	206	377	84
39K030	256	256	352	142
39K040	288	288	441	92
39K055	408	408	340	84
39K075	452	452	420	94
39K100	510	510	480	112
39K120	572	572	480	88

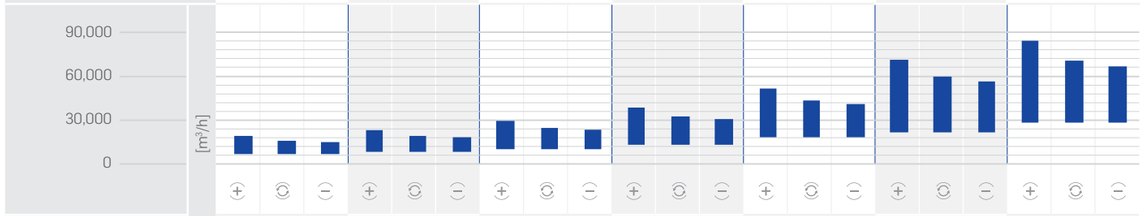
Plug Fan
END (US)

Size	WA	HA	WA1	HA1
39K021	500	210	230	119
39K030	700	210	130	185
39K040	600	310	284	135
39K055	850	310	244	202
39K075	900	400	290	217
39K100	1,200	400	230	267
39K120	1,400	400	245	286

DIDW
END (US)

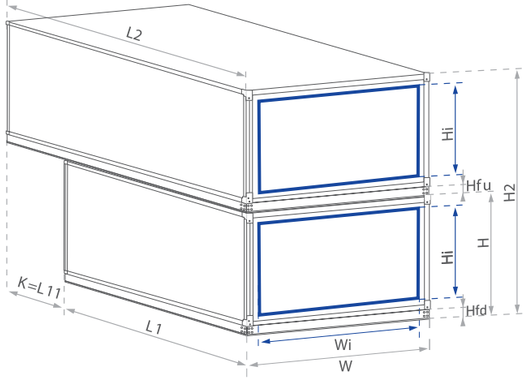
Size	WA	HA	WA1	HA1
39K021	206	206	377	307
39K030	256	256	352	322
39K040	288	288	441	336
39K055	408	408	340	390
39K075	452	452	420	390
39K100	510	510	480	420
39K120	572	572	480	480

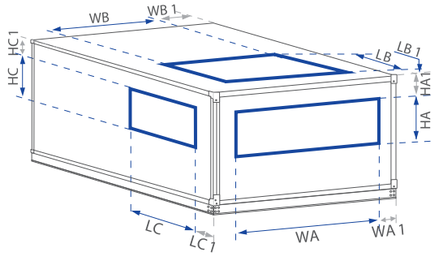
39K 150-650 – ROTARY HEAT WHEEL



Nominal parameters		Recommended airflow range																	
Unit size		39K150			39K180			39K230			39K300			39K400			39K500			39K650		
		+	↻	−	+	↻	−	+	↻	−	+	↻	−	+	↻	−	+	↻	−	+	↻	−
Min. airflow		7,167	7,167	7,167	8,640	8,640	8,640	10,398	10,398	10,398	13,491	13,491	13,491	18,704	18,704	18,704	21,817	21,817	21,817	28,725	28,725	28,725
Max. airflow		19,500	16,350	15,450	23,400	19,620	18,540	29,900	25,070	23,690	39,000	32,700	30,900	52,000	43,600	41,200	71,500	59,950	56,650	84,500	70,850	66,950
H_{fd}	[mm]	90			90			90			120			120			120			120		
H_{fu}	[mm]	0			0			0			80			80			80			80		
H	[mm]	1,163			1,397			1,397			1,696			1,929			1,929			2,406		
W	[mm]	2,085			2,085			2,493			2,585			3,085			3,585			3,697		
H_i	[mm]	993			1,197			1,197			1,496			1,729			1,729			2,206		
W_i	[mm]	2,005			2,005			2,413			2,505			3,005			3,505			3,617		
H_2	[mm]	2,236			2,644			2,644			3,352			3,818			3,818			4,772		
l	[mm]	40			40			40			40			40			40			40		

Selected configurations	Dimensions	Length of selected configurations						
FRV/FRV_cd	L2	2,562	2,562	2,562	2,928	2,928	2,928	2,928
	L1	2,562	2,562	2,562	2,928	2,928	2,928	2,928
	K	1,098	1,098	1,098	1,464	1,464	1,464	1,464
	Lt	2,562	2,562	2,562	2,928	2,928	2,928	2,928
FRMV/FVMR_cd	L2	3,660	3,660	3,660	4,026	4,026	4,026	4,026
	L1	3,660	3,660	3,660	4,026	4,026	4,026	4,026
	K	0	0	0	0	0	0	0
	Lt	3,660	3,660	3,660	4,026	4,026	4,026	4,026
FRHV/FRV_cd	L2	2,562	2,562	2,562	2,928	2,928	2,928	2,928
	L1	2,928	2,928	2,928	3,294	3,294	3,294	3,294
	K	1,098	1,098	1,098	1,464	1,464	1,464	1,464
	Lt	2,928	2,928	2,928	3,294	3,294	3,294	3,294
FRMHV/FVMR_cd	L2	3,660	3,660	3,660	4,026	4,026	4,026	4,026
	L1	4,026	4,026	4,026	4,392	4,392	4,392	4,392
	K	0	0	0	0	0	0	0
	Lt	4,026	4,026	4,026	4,392	4,392	4,392	4,392
FRMHV/FVMR_cd	L2	2,562	2,562	2,562	2,928	2,928	2,928	2,928
	L1	2,928	2,928	2,928	3,294	3,294	3,294	3,294
	K	1,098	1,098	1,098	1,464	1,464	1,464	1,464
	Lt	2,928	2,928	2,928	3,294	3,294	3,294	3,294
FRMCV/FVMR_cd	L2	3,660	3,660	3,660	4,026	4,026	4,026	4,026
	L1	4,026	4,026	4,026	4,392	4,392	4,392	4,392
	K	0	0	0	0	0	0	0
	Lt	4,026	4,026	4,026	4,392	4,392	4,392	4,392
FPDV/FVPD_cd	L2	4,110	4,138	4,138	4,504	4,504	4,504	4,504
	L1	4870	4,898	4898	5,264	5,264	5,264	5,264
	K	366	366	366	366	366	366	366
	Lt	5,236	5,264	5,264	5,630	5,630	5,630	5,630





DIMENSIONS – 39K150-39K650 – ROTARY HEAT WHEEL

Opening BIG - (inlet-outlet) END (FF)

Size	WA	HA	WA1	HA1
39K150	1,400	500	342	286
39K180	1,700	500	192	388
39K230	1,800	600	346	338
39K300	2,060	700	262	438
39K400	2,760	700	162	554
39K500	3,060	800	262	504
39K650	3,360	900	168	693

Opening SMALL - (inlet-outlet) END (FS)

Size	WA	HA	WA1	HA1
39K150	500	210	792	431
39K180	600	210	742	533
39K230	550	310	971	483
39K300	700	310	942	633
39K400	900	310	1092	749
39K500	900	400	1,342	704
39K650	1,150	400	1,273	943

Opening BIG - (inlet-outlet) END (US)

Size	WA	HA	WA1	HA1
39K150	1,400	500	342	120
39K180	1,700	500	192	120
39K230	1,800	600	346	120
39K300	2,060	700	262	120
39K400	2,760	700	162	120
39K500	3,060	800	262	120
39K650	3,360	900	168	120

Opening SMALL - (inlet-outlet) END (US)

Size	WA	HA	WA1	HA1
39K150	500	210	792	120
39K180	600	210	742	120
39K230	550	310	971	120
39K300	700	310	942	120
39K400	900	310	1092	120
39K500	900	400	1342	120
39K650	1,150	400	1,273	120

Opening BIG - (inlet-outlet) END (BS)

Size	WA	HA	WA1	HA1
39K150	210	500	120	286
39K180	210	600	120	338
39K230	310	550	120	363
39K300	310	700	120	438
39K400	310	900	120	454
39K500	400	900	120	454
39K650	400	1,150	120	568

Opening SMALL - (inlet-outlet) END (FF)

Size	WA	HA	WA1	HA1
39K150	1,945	933	70	70
39K180	1,945	1,137	70	70
39K230	2,353	1,137	70	70
39K300	2,445	1,436	70	70
39K400	2,945	1,669	70	70
39K500	3,445	1,669	70	70
39K650	3,557	2,146	70	70

FAN OUTLET OPENINGS

Plug Fan END (FS)

Size	WA	HA	WA1	HA1
39K150	500	210	230	119
39K180	700	210	130	185
39K230	600	310	284	135
39K300	850	310	244	202
39K400	900	400	290	217
39K500	1,200	400	230	267
39K650	1400	400	245	286

DIDW END (FS)

Size	WA	HA	WA1	HA1
39K150	642	642	610	98
39K180	718	718	480	162
39K230	804	804	770	112
39K300	902	902	740	172
39K400	1,010	1010	1,040	470
39K500	1134	1,134	1,230	102
39K650	1,270	1,270	1,215	180

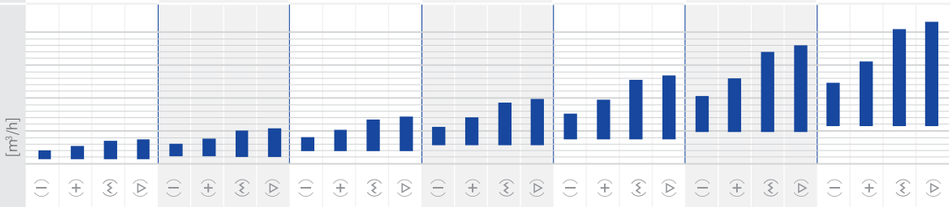
Plug Fan END (US)

Size	WA	HA	WA1	HA1
39K150	1,400	500	342	286
39K180	1,700	500	192	388
39K230	1,800	600	346	338
39K300	2,060	700	262	438
39K400	2,760	700	162	554
39K500	3,060	800	262	504
39K650	3,360	900	168	693

DIDW END (US)

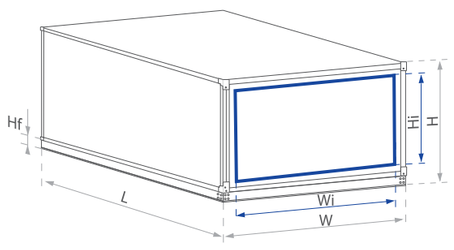
Size	WA	HA	WA1	HA1
39K150	642	642	610	510
39K180	718	718	480	520
39K230	804	804	770	600
39K300	902	902	740	600
39K400	1,010	1,010	1,040	640
39K500	1,134	1,134	1,230	700
39K650	1270	1,270	1,215	720

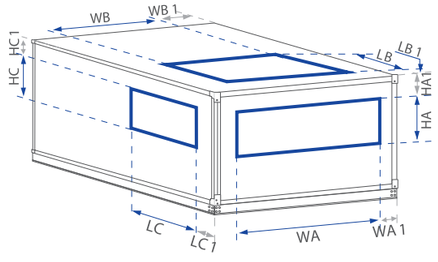
39K021-39K150 – SUPPLY & EXHAUST

Nominal parameters		Recommended airflow range						
Unit size		39K021	39K030	39K040	39K055	39K075	39K100	39K120
20 000 / 15 000 / 10 000 / 5 000 / 0	[m³/h]							
Min airflow		806 806 806 806	1,180 1,180 1,167 1,167	1,958 1,958 1,958 1,958	2,878 2,878 2,878 2,878	3,805 3,805 3,805 3,805	4,863 4,863 4,863 4,863	5,815 5,815 5,815 5,815
Max airflow		2,163 2,730 3,570 3,780	3,090 3,900 5,100 5,400	4,120 5,200 6,800 7,200	5,665 7,150 9,350 9,900	7,725 9,750 12,750 13,500	10,300 13,000 17,000 18,000	12,360 15,600 20,400 21,600
H_{fd}	[mm]	90	90	90	90	90	90	90
H		538	670	670	805	925	1,025	1,062
W		961	961	1,168	1,339	1,480	1,660	1,891
H_i		368	500	500	635	755	855	892
W_i		881	881	1,088	1,259	1,400	1,580	1,811
I		40	40	40	40	40	40	40

Selected configurations	Dimensions	Length of selected configurations						
F-CV	Lt	1,181*	1,181*	1,181*	1,547	1,547	1,913	1,913
MFCV	Lt	1,490*	1,490*	1490*	1,856	2,221	2,587	2,587
FCV	Lt	1,572*	1,572*	1,572*	1,938	1,938	2,303	2,303
MFFCV	Lt	2,221*	2,221*	2,221*	2,587	2,587	2,953	2,953
FV	Lt	1,098	1,098	1,098	1,464	1,464	1,830	1,830
V	Lt	732	732	732	1,098	1,098	1,464	1,464

[mm]





General:
*If 8RD with eliminator, length will increase by 366 mm
**If RA is required on top, length will increase by 366 mm

DIMENSIONS – 39K021-39K120 – SUPPLY & EXHAUST

Opening BIG - (inlet-outlet)
END (FF)

Size	WA	HA	WA1	HA1
39K021	500	210	230	119
39K030	700	210	130	185
39K040	600	310	284	135
39K055	850	310	244	202
39K075	900	400	290	217
39K100	1,200	400	230	267
39K120	1,400	400	245	286

Opening SMALL - (inlet-outlet)
END (FS)

Size	WA	HA	WA1	HA1
39K021	150	112	405	168
39K030	200	112	380	234
39K040	250	112	459	234
39K055	350	112	494	301
39K075	500	112	490	361
39K100	350	210	655	362
39K120	400	210	745	381

Opening BIG - (inlet-outlet)
END (US)

Size	WA	HA	WA1	HA1
39K021	500	210	230	120
39K030	700	210	130	120
39K040	600	310	284	120
39K055	850	310	244	120
39K075	900	400	290	120
39K100	1,200	400	230	120
39K120	1400	400	245	120

Opening SMALL - (inlet-outlet)
END (US)

Size	WA	HA	WA1	HA1
39K021	150	112	405	120
39K030	200	112	380	120
39K040	250	112	459	120
39K055	350	112	494	120
39K075	500	112	490	120
39K100	350	210	655	120
39K120	400	210	745	120

Opening BIG - (inlet-outlet)
END (BS)

Size	WA	HA	WA1	HA1
39K021	112	150	120	149
39K030	112	200	120	190
39K040	112	250	120	165
39K055	112	350	120	182
39K075	112	500	120	167
39K100	210	350	120	292
39K120	210	400	120	286

Opening SMALL - (inlet-outlet)
END (FF)

Size	WA	HA	WA1	HA1
39K021	821	313	70	70
39K030	821	440	70	70
39K040	1,028	440	70	70
39K055	1,199	575	70	70
39K075	1,340	695	70	70
39K100	1,520	795	70	70
39K120	1,751	832	70	70

FAN OUTLET OPENINGS

Plug Fan
END (FS)

Size	WA	HA	WA1	HA1
39K021	500	210	230	119
39K030	700	210	130	185
39K040	600	310	284	135
39K055	850	310	244	202
39K075	900	400	290	217
39K100	1,200	400	230	267
39K120	1,400	400	245	286

DIDW
END (FS)

Size	WA	HA	WA1	HA1
39K021	206	206	377	84
39K030	256	256	352	142
39K040	288	288	441	92
39K055	408	408	340	84
39K075	452	452	420	94
39K100	510	510	480	112
39K120	572	572	480	88

Plug Fan
END (US)

Size	WA	HA	WA1	HA1
39K021	500	210	230	119
39K030	700	210	130	185
39K040	600	310	284	135
39K055	850	310	244	202
39K075	900	400	290	217
39K100	1,200	400	230	267
39K120	1,400	400	245	286

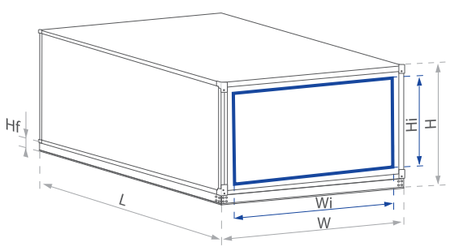
DIDW
END (US)

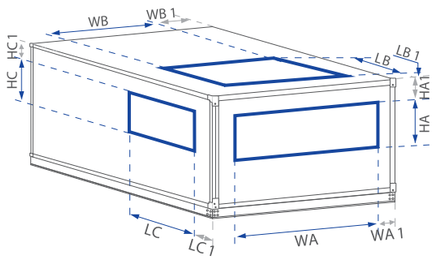
Size	WA	HA	WA1	HA1
39K021	206	206	377	307
39K030	256	256	352	322
39K040	288	288	441	336
39K055	408	408	340	390
39K075	452	452	420	390
39K100	510	510	480	420
39K120	572	572	480	480

39K 150-650 – SUPPLY & EXHAUST

Nominal parameters		Recommended airflow range						
Unit size		39K150	39K180	39K230	39K300	39K400	39K500	39K650
	[m³/h]	120 000 / 90 000 / 60 000 / 30 000 / 0						
Min airflow		7,167 7,167 7,167 7,167	8,640 8,640 8,640 8,640	10,398 10,398 10,398 10,398	13,491 13,491 13,491 13,491	18,704 18,704 18,704 18,704	21,817 21,817 21,817 21,817	28,725 28,725 28,725 28,725
Max airflow		15,450 19,500 25,500 27,000	18,540 23,400 30,600 32,400	23,690 29,990 39,100 41,400	30,900 39,000 51,000 54,000	41,200 52,000 58,000 62,000	56,650 71,500 77,000 79,000	66,950 84,500 87,000 100,000
H_{fd}	[mm]	90	120	120	120	120	120	120
H_{fu}	[mm]	0	80	80	80	80	80	80
H	[mm]	1,163	1,397	1,397	1,696	1,929	1,929	2,406
W	[mm]	2,085	2,085	2,493	2,585	3,085	3,585	3,697
H_i	[mm]	993	1,197	1,197	1,496	1,729	1,729	2,206
W_i	[mm]	2,005	2,005	2,413	2,505	3,005	3,505	3,617
H_2	[mm]	2,236	2,754	2,754	3,352	3,818	3,818	4,772
I	[mm]	40	40	40	40	40	40	40

Selected configurations	Dimensions	Length of selected configurations						
F-CV	Lt	1,913	1,913	1,913	2,278	2,278	2,278	2,278
MFCV	Lt	2,587	2,587	2,587	2,953	2,953	2,953**	2,953**
FCV	Lt	2,303	2,303	2,303	2,669	2,669	2,669	2,669
MFFCV	Lt	2,953	2,953	2,953	3,318	3,318	3,318**	3,318**
FV	Lt	1,830	1,830	1,830	2,196	2,196	2,196	2,196
V	Lt	1,464	1,464	1,464	1,830	1,830	1,830	1,830





General:
*If 8RD with eliminator, length will increase by 366 mm
**If RA is required on top, length will increase by 366 mm

DIMENSIONS – 39K021-39K120 – SUPPLY & EXHAUST

Opening BIG - (inlet-outlet)
END (FF)

Size	WA	HA	WA1	HA1
39K150	1,400	500	342	286
39K180	1,700	500	192	388
39K230	1,800	600	346	338
39K300	2,060	700	262	438
39K400	2,760	700	162	554
39K500	3,060	800	262	504
39K650	3,360	900	168	693

Opening SMALL - (inlet-outlet)
END (FS)

Size	WA	HA	WA1	HA1
39K150	500	210	792	431
39K180	600	210	742	533
39K230	550	310	971	483
39K300	700	310	942	633
39K400	900	310	1,092	749
39K500	900	400	1,342	704
39K650	1,150	400	1,273	943

Opening BIG - (inlet-outlet)
END (US)

Size	WA	HA	WA1	HA1
39K150	1,400	500	342	120
39K180	1,700	500	192	120
39K230	1,800	600	346	120
39K300	2,060	700	262	120
39K400	2,760	700	162	120
39K500	3,060	800	262	120
39K650	3,360	900	168	120

Opening SMALL - (inlet-outlet)
END (US)

Size	WA	HA	WA1	HA1
39K150	500	210	792	120
39K180	600	210	742	120
39K230	550	310	971	120
39K300	700	310	942	120
39K400	900	310	1,092	120
39K500	900	400	1,342	120
39K650	1,150	400	1,273	120

Opening BIG - (inlet-outlet)
END (BS)

Size	WA	HA	WA1	HA1
39K150	210	500	120	286
39K180	210	600	120	338
39K230	310	550	120	363
39K300	310	700	120	438
39K400	310	900	120	454
39K500	400	900	120	454
39K650	400	1150	120	568

Opening SMALL - (inlet-outlet)
END (FF)

Size	WA	HA	WA1	HA1
39K150	1,945	933	70	70
39K180	1,945	1,137	70	70
39K230	2,353	1,137	70	70
39K300	2,445	1,436	70	70
39K400	2,945	1,669	70	70
39K500	3,445	1,669	70	70
39K650	3,557	2,146	70	70

FAN OUTLET OPENINGS

Plug Fan
END (FS)

Size	WA	HA	WA1	HA1
39K150	500	210	230	119
39K180	700	210	130	185
39K230	600	310	284	135
39K300	850	310	244	202
39K400	900	400	290	217
39K500	1,200	400	230	267
39K650	1,400	400	245	286

DIDW
END (FS)

Size	WA	HA	WA1	HA1
39K150	642	642	610	98
39K180	718	718	480	162
39K230	804	804	770	112
39K300	902	902	740	172
39K400	1,010	1,010	1,040	470
39K500	1,134	1,134	1,230	102
39K650	1,270	1,270	1,215	180

Plug Fan
END (US)

Size	WA	HA	WA1	HA1
39K150	1,400	500	342	286
39K180	1,700	500	192	388
39K230	1,800	600	346	338
39K300	2,060	700	262	438
39K400	2,760	700	162	554
39K500	3,060	800	262	504
39K650	3,360	900	168	693

DIDW
END (US)

Size	WA	HA	WA1	HA1
39K150	642	642	610	510
39K180	718	718	480	520
39K230	804	804	770	600
39K300	902	902	740	600
39K400	1,010	1,010	1,040	640
39K500	1,134	1,134	1,230	700
39K650	1,270	1,270	1,215	720

ADDITIONAL CONFIGURATION FUNCTIONS – 39K 021-650 – RECUPERATOR (HEX & PREMIUM PLUS), REGENERATOR (HEAT WHEEL) SUPPLY & EXHAUST

Dimension			Function version	Remaining configuration functions – typical lengths of function arrangement						
				39K021	39K030	39K040	39K055	39K075	39K100	39K120
F	L	[mm]	F7/F9	762	762	762	762	762	762	762
			EU4/F5	366	366	366	366	366	366	366
H	L		H	366	366	366	366	366	366	366
C	L		C	366	366	366	366	366	366	366
S	L		S	1,098	1,098	1,098	10,98	1,098	1,098	1,098
E	L		E(e1)	366	366	366	366	366	366	366
			E(e2)	762	762	762	762	762	762	762
			E(e3)	1,098	1,098	1,098	1,098	1,098	1,098	1,098
M	L		M	762	762	762	762	762	762	762
W	L		W	1,098	1,098	1,098	1,098	1,098	10,98	1,098

Dimension			Function version	Remaining configuration functions – typical lengths of function arrangement						
				39K150	39K180	39K230	39K300	39K400	39K500	39K650
F	L	[mm]	F7/F9	762	762	762	762	762	762	762
			EU4/F5	366	366	366	366	366	366	366
H	L		H	366	366	366	366	366	366	366
C	L		C	366	366	366	366	366	366	366
S	L		S	1,098	1,098	1,098	1,098	1,098	1,098	1,098
E	L		E(e1)	366	366	366	366	366	366	366
			E(e2)	762	762	762	762	762	762	762
			E(e3)	1,098	1,098	1,098	1,098	1,098	1,098	1,098
M	L		M	1,098	1098	1,098	1,098	1,098	1,098	1,098
W	L		W	1,098	1,098	1,098	1,098	1,098	1,098	1,098

COMPONENTS

FAN SET

> DIRECT DRIVE PLUG FAN SET

Design and application

- Single inlet, radial, backward curved, free running fan.
- Impeller made of Styrene/Acrylonitryle (SAN) construction material with 20% glass fiber.
- Direct drive – fan impeller installed directly on motor shaft.
- Fan section consisting of single or multiple fans (fan array) in order to ensure optimum working parameters.

Specifications

- Low and medium pressure ventilation systems with fan static pressure not exceeding 2,000 pascals.
- Maximum fan set working temperature at 60°C.

> BELT DRIVE DIDW FAN SET

- The Double Inlet Double Width centrifugal fans (DIDW) are suitable for supply or extract applications in commercial, process and industrial HVAC systems.
- Sizes are in accordance with AMCA standard 99-0098-76 R20.
- The operating limit is designed to meet the requirements of Class I, II and III limit as defined in AMCA standard 99-2408-69.

Wheel

- The wheels are available in options:
  - Forward curved blades
  - Backward curved blades (air foil or straight shape)
- The impeller with forward curved blades is manufactured in galvanized sheet steel.
- The impeller with backward inclined blades is made of cold rolled sheet steel and the backward curved blades are made with polyester powder coating finish.

Housing

- For all sizes, the housing is manufactured in galvanized sheet steel with the housing fixed to the side plates in “Pittsburgh Lock” form system.

Frame

- The frame is manufactured with galvanized angular bars or steel finished with polyester powder coating.

Shaft

- Shafts are manufactured from C45 carbon steel coated with an anti-corrosion varnish after assembly.

Bearings

- Bearings used are either deep groove ball bearing type with an eccentric locking collar or an adapter sleeve, or spherical roller bearings type sealed at both sides for different duty.

> AC MOTORS

- Fan and motor mounted on common housing, separated from AHU casing by a set of rubber vibration absorbing mounts.
- Motors of Totally Enclosed, Fan-Cooled type (TEFC).
- Motors fitted for IEC standard.
- Variable Frequency Drive (VFD) – standard equipment of the fan-set.
- Available energy classes: IE2, IE3
- Rated voltage: 3x230V AC, 3x400V AC.
- Number of poles: 2 or 4.
- Motor winding insulation class: F (fitted for VFD operations).
- Bearings lifetime: L_{10}= 20,000h / L_{50} = 1,00,000h.
- Protection degree: IP55.
- Maximum working ambient temperature: 60°C.

PANEL FILTERS

Design and application

- Box Type
- Pleated filtration fabric shielded by steel net, installed in 50 mm thick frame.
- Filtration fabric made of polyester fibres.
- Applied as initial air filtration stage.

Specification

- Working temperature: Maximum at 70°C, 100% RH.

Filtration classes available

- ISO Coarse 75% (ISO 16890) - G4 (EN779).

BAG FILTERS

Design and application

- Flange Type & Bag Type.
- Filtration fabric made of polyester fibres.
- Bags fixed to to 25 mm thick frame.
- Length: 300/600 mm.
- Applied as initial, secondary of final air filtration stage.

Specification

- Working temperature: Maximum 70°C, 100% RH.

Filtration classes available

- ISO ePM10 50% (ISO 16890) - M5 (EN779).
- ISO ePM2,5 65% (ISO 16890) - F7 (EN779).
- ISO ePM1 70% (ISO 16890) - F9 (EN779).

HEPA FILTERS

Design and application

- Flange Type & Box Type.
- Filter Media: Glass Fiber/Spun Bonded Polyester
- Length 300/600 mm.
- Applied as final air filtration stage
- Frame Material: Aluminum (SS 304 / GI (Galvanized Steel))

Specification

- Working temperature: Maximum 70°C, 100% RH.

Filtration classes available

- H13 (EN1822).
- Filtration rating: 0.3 micron and more
- Filtration efficiency: 90-99.9%

Shape	Classification		Length [mm]	Position	Bracket Type
Box	EU4	ISO Coarse 75% (ISO 16890)- G4 (EN779)	50	Ext / Int	Slide / Flange
Bag	EU4	ISO Coarse 75% (ISO 16890)- G4 (EN779)	300	Int	Slide
	EU5	ISO ePM10 50% (ISO 16890) - M5 (EN779)	300	Int	Slide / Flange
	EU7	ISO ePM2,5 65% (ISO 16890) - F7 (EN779)	300	Int	Slide / Flange
			600	Int	Slide
		ISO ePM1 70% (ISO 16890) - F9 (EN779)	300	Int	Slide / Flange
			600	Int	Slide
Box & Bag	EU4&EU5	ISO Coarse 75% (ISO 16890)- G4 (EN779) ISO ePM10 50% (ISO 16890) - M5 (EN779	350	Ext&Int	Slide
				Int&Int	Slide
	EU4&EU7	ISO Coarse 75% (ISO 16890)- G4 (EN779), ISO ePM2,5 65% (ISO 16890) - F7 (EN779)	350	Ext&Int	Slide
				Int&Int	
		ISO Coarse 75% (ISO 16890)- G4 (EN779) ISO ePM1 70% (ISO 16890) - F9 (EN779)	350	Ext&Int	Slide
				Int&Int	
Box / Bag	H13		300	Int	Flange

CASING

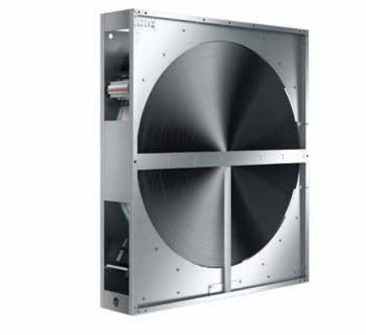
Design and application

- Casing structure made of sandwich -type panels formed in a 'C' shape and reinforced by system of internal frames.
- "Sandwich" double skin panels made of rigid polyurethane foam.
- Indoor and outdoor application.
- Inspection panels mounted on AHU side.
- Casing supported on steel base rails.

Specifications

- Working temperature: -40°C ÷ +90°C.
- Panel thickness: 40 mm.
- Thermal conductivity PPU λ= 0.022 W/mK.
- Casing fire resistance: non-flamable, non fire spreading (NRO).
- Moisture absorption: 0.04%.
- PPU density: ρ= 42kg/m³.
  - Mechanical strength of casing: -1,000 Pa ÷ 1000 Pa < 2mm (In accordance with D1 - PN EN 1886: 2008)
  - Casing tightness: (MB): (-400) Pa - 0.05 l/sm², (+700) Pa - 0,13 l/sm² (In accordance with L1 - PN EN 1886: 2008) (RU): (+400) Pa - 0,93 l/sm²,
  - Casing heat transfer coefficient: K= 0,6 W/m²K (In accordance with T2 - PN EN 1886: 2008)
  - Thermal bridges coefficient: K_b =0.52 (In accordance with TB3 - PNEN 1886: 2008)

ROTARY HEAT WHEEL



Design and application

- Rotor made of aluminum with shaft suspended on bearings, installed in steel housing.
- Rotor filling – two layers of alternately winded aluminium foil – one flat, the other – corrugated – making small ducts for the air.
- Rotor drive system with smooth revolutions control enabling maintenance of highest recovery efficiency and to adjust degree of recovery performance.
- Purge zone reduces the cross contamination effect of contaminated exhaust air to an absolute minimum.
- A set of gaskets installed both on the wheel outer edge and bar separating supply from exhaust air being an additional protection against cross contamination.
- Rotary heat wheel recovers sensible heat from return air to supply, which passes the unit in the opposite direction. The process enables heat recovery in winter time, same as cool recovery in summer.
- Humidity recovery from return to supply in case the rotor pad temperature is lower than dew point of return air – typically during winter season.

Specification

- Up to 86% of energy recovery depends on airflow rate and its velocity in the heat wheel window.

CROSS-FLOW PLATE HEAT RECUPERATOR

Design and application

- Recuperator made of crosswise stamped aluminum plates, between which supply and exhaust air passes alternately in a counterflow arrangement.
- As per standard, the recuperator is equipped with bypass damper, enabling its securing against frosting and heat recovery capacity regulation.
- Optionally, the recuperator can be equipped with an integrated mixing box
- The recuperator provides sensible heat recovery for warmer air to the colder air. During the winter season, there is a recovery of heat from return air to supply. During the summer, there is a recovery of chill from return air to supply.

Specifications

- Energy recovery at very high supply and exhaust air stream separation (reaching 99.9%)
- Heat recovery reaching up to 80% depending on flow rate face velocity of the air passing the recuperator.

RUN-AROUND COIL

Design and application

- Set of two water coils – one in supply, the other one in exhaust airstream.
- The coil in return airstream recovers the heat (cooler) and passes it to the coil in the supply air (heater) by means of heat-transfer fluid (water-glycol mixture). In case of chill recovery, the entire process is reversed.
- System applied for supply and exhaust air handling units installed remotely to each other.

Specifications

- Indirect energy recovery (sensible heat) at 100% supply and exhaust airstreams separation.
- Maximum heat transfer fluid operation pressure: 1.6MPa = 16bar (tested 21 bar).
- Maximum glycol concentration: 50%.

MIXING SECTION

Design and application

- Section equipped with two air inlets / outlets aided with dampers, enabling regulation of fresh and recirculated air share (recirculation).

Specifications

- Direct energy recovery (sensible and latent heat) resulting from partial mixing of fresh air with return one.
- Control of fresh air share in entire airflow supplied to handled spaces.
- Working temperature range: -40 ÷ +70°C.

WATER HEATER

Design and application

- Block of copper pipes integrated with another block of aluminum fins creating expanded heat exchange surface. Pipes are bonded to the collectors, equipped with headers (for connecting entire coil to the medium supply system).
- Heating of the air supplied to the handled spaces.
- Reheating of the air as a part of air dehumidifying process.
- The coil can be applied if heating medium is available (local boiler or district heating system).
- Coil headers are equipped with medium damping valve and air vent.
- Connecting the coil in parallel medium flow vs air will result in its capacity reduction by over a dozen percent.

Specifications

- Maximum glycol concentration: 50%.
- Maximum medium temperature: 150°C.
- Maximum medium working pressure: 1.6MPa = 16bar (test: 21bar).
- Heating capacity: parameter resulting from individual performance calculation of selected unit.
- Medium side pressure drop – parameter resulting from individual performance calculation of selected unit.

ELECTRIC HEATER

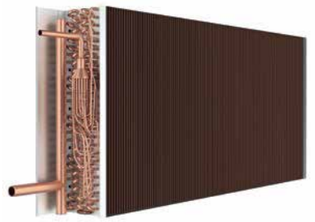
Design and application

- Set of resistive heating elements made of CR-Ni-Fe alloy of 6 kW/400V each.
- Coils mounted on hot-dip galvanized steel frame.
- Heater is equipped with power terminals and thermostat protecting against overheating.
- In case of AHU with complete controls, heater is equipped with integrated capacity control module.
- Heating capacity can be modified by means of smooth regulation module (HE module, set of Solid State Relays as optional parts of AHU controls) or by means of automatic engaging of next heating sections.

Specification

- Maximum permissible ambient temperature around heating elements: 65°C.

DIRECT EXPANSION COIL AS CONDENSER IN HEAT PUMP CIRCUIT



Design and application

- Block of copper pipes integrated with another block of aluminum fins creating an expanded heat exchange surface. Pipes are bonded to the collectors and are equipped with headers (for connecting the entire coil to the cooling system circuit).
- Heating of the air supplied to the handled spaces.
- Reheating of the air as a part of the air dehumidifying process.

Specifications

- Maximum medium temperature: 60°C.
- Maximum medium working pressure: 3.84MPa = 38.4bar (test: 50bar).
- Heating capacity: parameter resulting from individual performance calculation of selected unit.

WATER COOLER

with another block of aluminum fins,

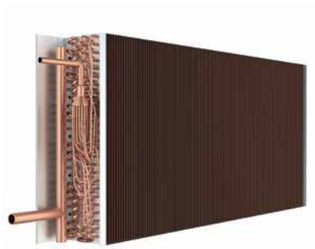
Design and application

- Block of copper pipes integrated with another block of aluminum fins creating expanded heat exchange surface. Pipes are bonded to the collectors and are equipped with headers (for connecting the entire coil to the medium supply system).
- Cooling of the air supplied to handled spaces.
- Cooling and dehumidifying of the air as a part of the air complex dehumidifying process in summer season.
- Coil can be applied in complex air conditioning systems consisting of few or over dozen units supplied from common chilling source (chiller) or in case of single unit of relatively high cooling capacity.

Specifications

- Maximum glycol concentration: 50%.
- Minimum supplying medium temperature: +2°C.
- Maximum medium working pressure: 1.6MPa = 16bar (test: 21bar).
- Cooling capacity: parameter resulting from individual parameters of selected unit.
- Medium pressure drop / flow rate: parameter resulting from individual performance calculation of selected unit.
- For reversed operating mode (heating) maximum medium working temperature: 140°C.

DX COOLING COIL



Design and application

- Block of copper pipes integrated with another block of aluminum fins creating an expanded heat exchange surface. Pipes are bonded to the collectors and are equipped with headers (for connecting the entire coil to the cooling system circuit).
- DX cooler is also available as heater execution also known as condenser.
- Cooling and dehumidifying of the air as a part of the air complex dehumidifying process in summer season.
- Coil usually applied for smaller cooling capacity systems vs water coolers or for individual air conditioning systems.

Specifications

- Minimum refrigerant evaporation temperature: +3°C.
- Maximum refrigerant working pressure: 2.2MPa=22bar (test: 29 bar).
- Cooling capacity parameter resulting from individual performance calculation of selected unit.

EVAPORATIVE HUMIDIFIER

Design and application

- Humidifying process based on water adiabatic evaporation from the humidifier pad.
- Humidifying pad made of CELDEK II material.
- Humidifier housing made of stainless steel.
- System of direct water dropping (39K021-39K055).
- System of water recirculation aided by pump (39K075-39k650).
- Droplet eliminator integrated with humidifier filling (39K075-39K650).
- System is equipped with water drainage system to prevent high water level in the pan and floating valve controlling its refilling (39K075-39K650).

Specifications

- Maximum air face velocity across the humidifier pad: 3.00 m/s (39K21-39K55); 4,00 m/s (39K 75-39K 650).
- Water pressure range: 0.15 ÷ 0.75 MPa.
- Requirements regarding water quality – standard tap water.

SOUND ATTENUATING SECTION

Design and application

- Sound attenuator consists of noise attenuating bars installed in the AHU casing.
- Attenuating bars of 140 mm width filled with sound-absorbing, inflammable mineral wool (density of 60 and 80 kg/m^3).
- Attenuating bar housing: frame made of hot-dip galvanized steel.
- Bar outer surface: thin veil preventing against bar filling migration to the air.
- Number of attenuating bars: 2÷13, depending on block size.

Specifications

- Maximum air face velocity: 5m/s.
- Working conditions: -40 ÷ +70°C.

INTERNAL LIGHT

Design and application

- Energy saving lamp with securing shade.
- Facilitation of AHU inspection actions: filter, fan and humidifier compartment.

Specification

- Working conditions: -40 ÷ +70°C.

AIR DAMPER

Design and application

- Blades made of aluminium with rubber gasket on the edges.
- Aluminum frame.
- Blades drive realized by means of gears made of composite materials installed on the internal side of the frame.
- Damper is equipped with a square pivot fitted for an actuator (dampers of cross section greater than 4m^2 have two linked pivots).

Specifications

- Air leakage at closed damper: 50 m^3/h*m^2 - at 100 Pascals of pressure difference.
- Working temperature range: -40 ÷ +70°C.

FLEXIBLE CONNECTION

Design and application

- Flexible connection made of 1 mm-thick and 30 mm-wide hot-dip galvanized steel profiles and polyester fabric coated with PVC.
- Flame resistance: UL94 - HB [ISO 1210].
- Flexible connection that is resistant to UV radiation.
- Working temperature range: -30°C ÷ +70°C.
- Maximum connection length (fully spread position): 110 mm.
- Flexible connection installed on each AHU/duct joint eliminates transfer of possible AHU vibrations to the ventilation ductwork.

Specifications

- Maximum air face velocity: 5m/s.
- Working conditions: -40 ÷ +70°C.

AIR INTAKE AND DISCHARGE LOUVERS

Design and application

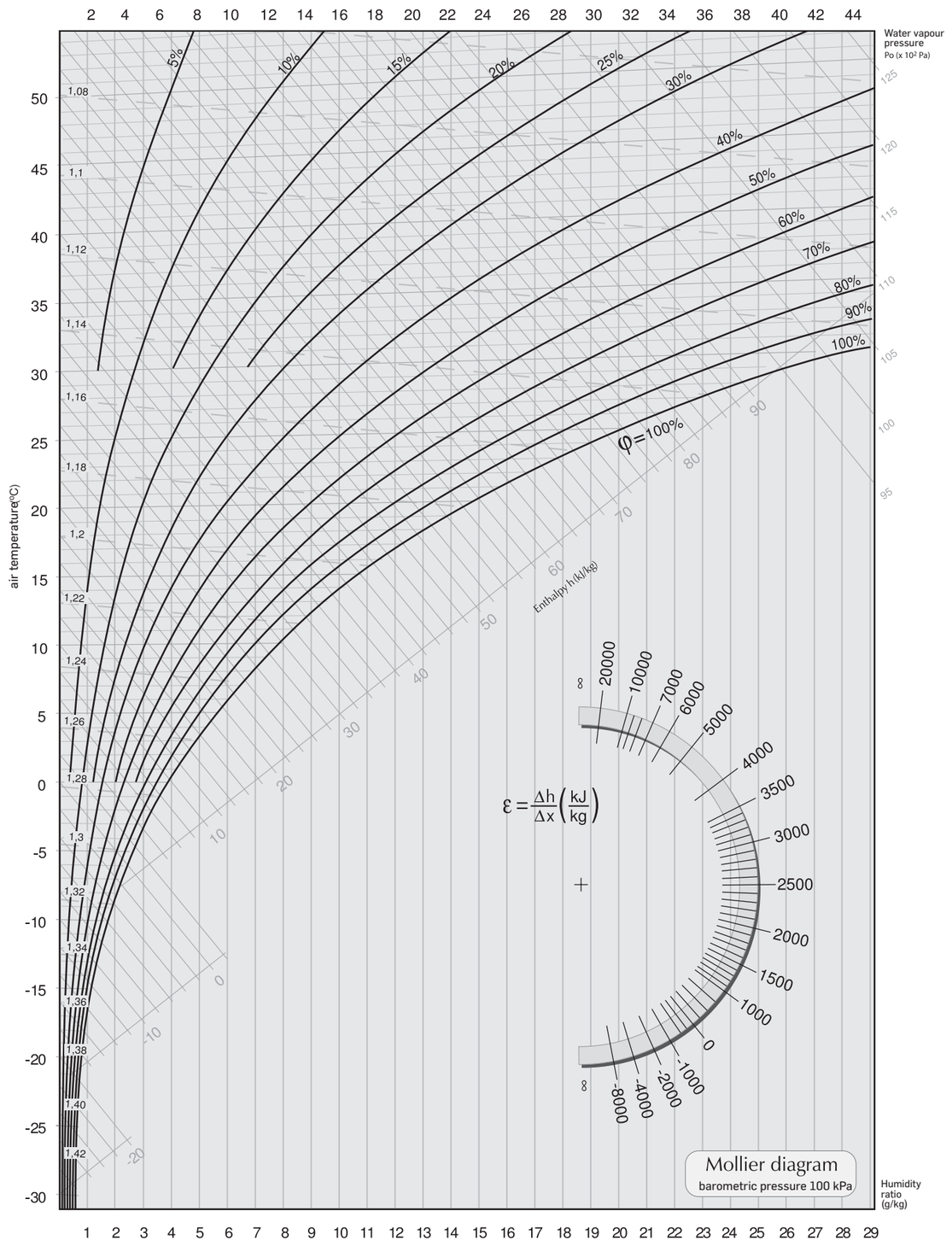
- Air intake louver made of aluminum profile, blades made of ABS material.
- Air outlet louver made of aluminum profile, blades made of ABS material.
- Protection of air handling unit installed outdoor against meteorological conditions (precipitation, sand).

Specifications

- Maximum air face velocity: 5m/s.
- Working conditions: -40 ÷ +70°C.

NOTES

PSYCHROMETRIC CHART



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