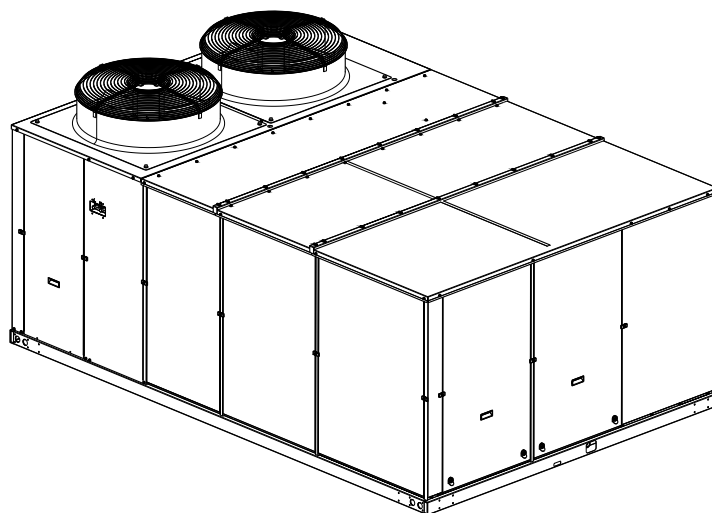




BY JOHNSON CONTROLS

## High pressure drive for Roof Top ACTIVA 045-090



**Options and Accessories, Installation manual**

**Ref.: N-40326\_EN 0112**

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**High pressure drive for Roof Top ACTIVA  
045-090**

1.1 Belt tightening

## 1.1 Belt tightening

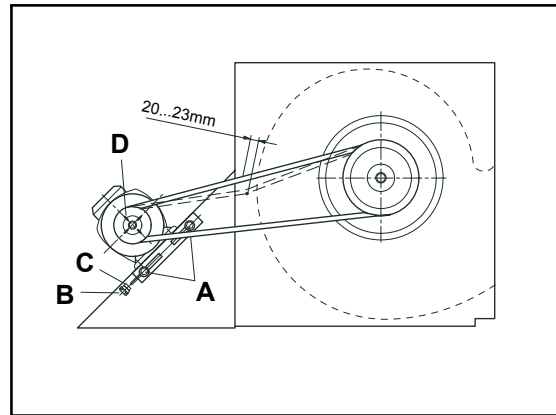
All units include single-speed motors with belt transmission for the indoor fan.

1. Loosen the nuts **-A-**. Never loosen the nuts **-C-**.
2. Tighten the belts by turning the screw **-B-** until the belt moves: 20...23 mm.
3. Tighten the nuts **-A-**.
4. Check the tension of the belts twice during the first 24 hours of unit operations.



**NOTE**

*The fan motor variable diameter pulley can be adjusted in order to obtain the supply air flow desired.*



## 1.2 Pulley adjustment (models 045/060/075: 1 groove; models 090: 2 grooves)

Consult the Installation Manual for the appropriate air flow adjustment values.

Loosen the nuts **-A-**. Never loosen the nuts **-C-**.

Loosen the belts by turning the screw **-B-**.

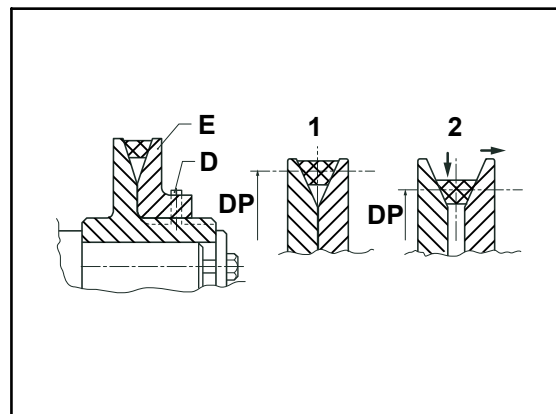
Loosen the set screws **-D-** to release the mobile rim **-E-**.

To increase or decrease the opening of the pulley, turn the mobile rim **-E-** on the thread of the fixed core of the pulley in the appropriate direction.

Apply sealant to the threads of the set screws **-D-** and fully tighten, checking that they match up to their housing in the fixed core of the pulley.

1. Pulley completely closed (maximum diameter). Maximum air flow.
2. Pulley completely open (minimum diameter). Minimum air flow.

DP Pulley diameter.

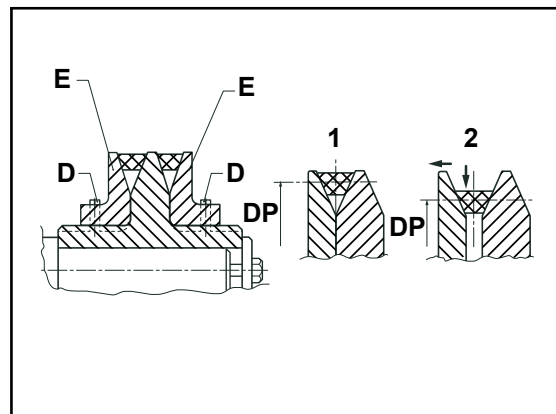


**CAUTION**

*In the case of model 090, both of the pulley grooves should be at the same distance from the fixed core of the pulley (same number of open or close turns).*

1. Pulley completely closed (maximum diameter). Maximum air flow.
2. Pulley completely open (minimum diameter). Minimum air flow.

DP Pulley diameter.



## 1.3 Features table

Model	Fan kit	Motor (1)		Motor pulley (adjustable)		Fan pulley		Belt			Rated current (A)	Motor trip switch range	Current setting (A)
		kW	Type of casing	Ø pulley (mm)	Ø shaft (mm)	(fixed) Ø pulley (mm)	Ø shaft (mm)	Length (mm)	Ref.	Qty.			
045	Option HPD 4 kW	4	112 MB	109-135	28	190	25	1740	BX67	1	8,6	6,3-10	9,5
060	Option HPD 5,5 kW	5,5	132 M	147-178	38	236	25	2040	BX79	1	11,4	9-14	12,5
075	Option HPD 7,5 kW	7,5	132 MA	147-178	38	236	25	2123	BX82	1	14,8	13-18	16
090	Option HPD 9,2 kW	9,2	132 MBA	139-173	38	250	35	2040	BX79	2	17,8	16-20	19,5
	Option HPD 11 kW	11	132 MB	152-190	38	250	35	2040	BX79	2	21	20-25	23

(1) All motors are totally closed, cooled by fans at 1450 r/min, with a solid base and a service factor of 1,15.  
Inside fan output tables for determining the motor pulley adjustment and the type of drive needed for the installation.

## 1.4 Considerations when consulting the output tables

### Indoor fan output tables

For units with 0% outdoor air and 100% return air, dry indoor coil, and standard G4 filters.



#### CAUTION

*Before consulting the tables, add secure drops to the pressure required for the installation due to:*

- *heat pump (models ARH/ARD-045 and 060)*
- *Gas heating (ARG/ARD Models)*
- *vertical supply and return and*
- *accessories included in the unit, when appropriate. **Pressure drop of options/accessories, gas heating and vertical ducts.**, see on page 5.*

The motor pulleys come adjusted to an opening of 4 turns. *Belt tightening*, see on page 2 and *Pulley adjustment (models 045/060/075: 1 groove; models 090: 2 grooves)*, see on page 2 for the belt adjustment and tightening procedure.



#### CAUTION

- *Before commissioning the installation, but after balancing the air distribution in the building, the supply air flow should be checked.*
- *With clean filters the indoor fan should not exceed a vacuum of -200 Pa in suction.*

## 1.5 Output table for indoor fan, model ARC-045, optional HPD drive motor 4 kW

Motor pulley opening adjustment (no. of turns)	Air flow rate m³/h									
	7000		8000		8500		9000		10000	
	SPA	kW	SPA	kW	SPA	kW	SPA	kW	SPA	kW
0	425	2,8	392	3,2	368	3,3	346	3,5	298	3,9
1	380	2,8	342	3,1	320	3,3	297	3,5	244	3,8
2	338	2,7	294	3,0	268	3,2	247	3,4	187	3,7
3	310	2,6	270	2,9	246	3,0	225	3,2	168	3,5
4	280	2,4	248	2,7	224	2,8	202	3,0	147	3,3
5	245	2,3	212	2,6	188	2,7	165	2,9	110	3,2
6	212	2,2	175	2,5	150	2,6	126	2,7	70	3,0

SPA: Static pressure available (Pa).

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1.6 Output table for indoor fan, model ARC-060, optional HPD drive motor 5,5 kW

## 1.6 Output table for indoor fan, model ARC-060, optional HPD drive motor 5,5 kW

Motor pulley opening adjustment (no. of turns)	Air flow rate m <sup>3</sup> /h									
	9500		10500		11500		12500		13500	
	SPA	kW	SPA	kW	SPA	kW	SPA	kW	SPA	kW
0	505	3,7	472	4,1	430	4,6	390	5,0	347	5,7
1	475	3,5	440	3,9	400	4,3	357	4,8	310	5,5
2	447	3,4	410	3,5	370	4,2	323	4,6	273	5,2
3	418	3,2	380	3,4	340	3,9	292	4,4	245	4,9
4	387	3,0	350	3,2	307	3,7	260	4,1	215	4,5
5	340	2,9	306	3,1	267	3,5	223	3,9	178	4,3
6	295	2,7	262	3,0	227	3,3	185	3,7	140	4,1

SPA: Static pressure available (Pa).

Zone outside of range

## 1.7 Output table for indoor fan, model ARC/ARH-075, optional HPD drive motor 7,5 kW

Motor pulley opening adjustment (no. of turns)	Air flow rate m <sup>3</sup> /h											
	11500		12500		13500		14500		15000		16000	
	SPA	kW	SPA	kW	SPA	kW	SPA	kW	SPA	kW	SPA	kW
0	-	-	-	-	-	-	-	-	625	8,2	540	8,8
1	-	-	-	-	-	-	595	7,4	564	8,0	508	8,6
2	660	5,1	630	5,9	588	6,5	540	7,2	512	7,7	460	8,4
3	610	4,9	565	5,5	524	6,1	478	6,8	450	7,3	400	7,9
4	550	4,7	510	5,2	465	5,8	420	6,5	394	6,9	338	7,5
5	495	4,5	450	5,0	408	5,5	362	6,1	330	6,5	277	7,0
6	440	4,3	400	4,8	352	5,3	305	5,8	273	6,1	220	6,6

Zone outside of range

## 1.8 Output table for indoor fan, model ARC/ARH-090, optional HPD drive motor 11 kW

Motor pulley opening adjustment (no. of turns)	Air flow rate m <sup>3</sup> /h											
	13000		14000		15000		16000		17000		18000	
	SPA	kW	SPA	kW	SPA	kW	SPA	kW	SPA	kW	SPA	kW
0	-	-	-	-	535	8,4	465	9,0	398	9,7	330	10,5
1	610	7,5	550	7,9	472	8,3	408	8,9	343	9,6	275	10,4
2	540	7,3	474	7,7	412	8,1	352	8,7	288	9,4	220	10,2
3	494	6,9	434	7,4	375	7,9	315	8,4	254	9,1	185	9,9
4	447	6,5	395	7,0	338	7,6	278	8,1	220	8,8	150	9,6
5	396	6,2	344	6,7	285	7,2	227	7,8	168	8,4	98	9,2
6	345	5,9	292	6,3	236	6,8	176	7,4	115	8,0	45	8,7

SPA: Static pressure available (Pa).

Zone outside of range

## 1.9 Pressure drop of options/accessories, gas heating and vertical ducts.

Model	m <sup>3</sup> /h (x 1000)	Pressure drop (Pa)												
		7	8	9	10	11	12	13	14	15	16	17	18	
Gas heating	ARG/ARD	18	20	24	30	37	45	53	60	70	80	90	100	
Heat pump	ARH/ARD 045	8	13	14	17									
	ARH/ARD 060			18	22	26	30	34	36					
Vertical supply	045/060	28	32	38	45	56	70	82	93					
	075/090					28	30	35	45	57	85	125	165	
Vertical return		12	12	12	12	12	12	12	12	12	12	12	12	
Option or accessory	Economiser/Motorised damper	7	9	11	13	16	19	22	25	29	33	37	43	
	Electric resistor kW	12-25	20	28	36	44	56	68	80	92	110	125	144	170
		37	28	37	46	56	70	85	100	114	130	150	172	194
		50	45	60	75	92	110	130	155	180	210	240	274	310
	Water coil		35	43	52	63	76	90	104	119	133	147	163	190
	Air filters F6	045/060	50	55	65	70	75	87	100	114				
		075						55	65	68	70	82	87	
		090								78	80	92	97	110
	Air filters F7	045/060	67	75	85	95	105	115	125	135				
		075						75	85	90	95	107	115	
090									100	105	117	125	135	145