



ervice

F400-13

ltem – ref.	Subject	Date
530247	Overview Of Pulleys On T Dryers	May 2010
WARNING:		

- Carry out the handling according to the following manufacturers instruction
- Always respect warnings from the relevant manuals of the machines
- Make sure all electric power or other energy sources are disconnected and closed before any servicing, always turn of the main switch
- Wait 10 minutes after electrical power is disconnected to eliminate power on the inverter terminals
- Installation, maintenance and service must be executed by skilled service personnel only or by a service organisation with appropriate authorization from the manufacturer
- For service, use only original replacement parts
- Re-install all machine parts in the original way
- The qualified agency performing this work assumes all responsibility for this kit installation. Other service activities than described below, disable all manufacturers responsibility
- Make sure children are not around during work in progress

	Applicable machir	ne models:
 O DAM5, DAM6 O DA9, DAM(S ● T9 ● T11, 13, 16 	_	O D25, 35 O D55, 77
	Applicable type of s	spare parts:
O General	O Heating unit	O Drum
O Chasis	Motor / pulley / belts	O Door
O Cabinet	O Bearing house & seals	O Exhaust
O Controler	O Air filter	O Electric components & sensors
O Coin unit	O Air fan	





Summary:

This information is intended to explain the evolution of the drive system on dryers T9÷35 and to provide a guide for selecting correct spare parts concerning drive pulleys and belts.

Drive evolution:

During the evolution of the dryers the gear ratio was changed several times to optimise the drive performance.

Drive version 1:

Originally the dryers were equipped with motors turning at 3000 RPM. Unfortunately such motors turned out to be too noisy; therefore it was decided to redesign the machines so that motors with 1500 RPM could be used.

Drive version 2:

As the speed of the motors became approximately one half like before (1500 RPM), both the fan and the drum drive had to be adapted.

The fan wheel must be bigger so that the fan performance stays the same at lower RPM, therefore the fan housing was redesigned completely.

The motor pulley diameter became double so that the drum RPM stay the same with lower motor RPM.

The width of the drum belt on T24/35 was increased.

Drive version 3:

It was only used on T24/35 to prevent slipping of belts. The gear ratio was changed.

Drive version 4:

This is the final version of the gear ratio. The main motivation for this change was, again, preventing the belts from slipping.

Following developments of the drive did bring no pulley diameter change any more; they just further optimised the drive performance. They were:

- reinforcement of the drum pulley
- introduction of flywheel on reversing dryers (the flywheel on the motor pulley, by its inertia, totally eliminates possible slipping of belts at each start of the motor during reversing; see also e-service mail "530226 Flywheel")
- modification of placement of the bearings in the intermediate pulley (easier assembly procedure, longer lifetime)

Rebuilding possibilities:

It is not possible to rebuild a dryer with drive version 1 to drive version 2 as such rebuild would be too complicated (it is not possible to replace the fan housing in a reasonable way). However, versions 2 and 3 can be easily upgraded to version 4 just by replacing the pulleys (and in some cases also the belts + drilling a few new holes).





Required parts:

Please see the attached 3 tables for parts information:

- Table "List of modifications" summarizes the evolution described below.
- Table "Serial numbers & Part numbers" is a tool for selecting correct part numbers according the serial number of the dryer.
- Table "Photos" provides an overview of the pulleys in form of photos. You can see how the diameters changed between individual drive versions.

In case you have further technical questions please do not hesitate to contact the Primus aftersales department.

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(1)						Motor	belt		50 H	Motor Iz	pull	ley 60 H	lz	h	nteri	nediate j	oulley	Drur	n pulley	Drum	belt
Type versio	Description of modification	Replaceability for older machines	ECN or deviation	VALID FROM	1st serial number	Туре	P.N.	Diameter	Part n revers- ing	umber non-re- versing	Diameter		umber non-re- versing	Big diam.	Small dia.	Part n Pulley	umber Assem bly 2)	Diameter	P.N.	Туре	P.N.
T11-16 T24-35	Original version - 3000 RPM	N.A.			-	4PJ1473 4PJ1600		42	515505	515523	34	515506	515524	383		518645 521101	-	383	518646	8PJ1473	518647
<u>T9</u> T11-16 2	Change of motor RPM from 3000/min to 1500/min	Conditionally - only for machines with reversing - motor, pulleys and belts have to be replaced - see also ECN360.	06/007	10.2.06	T9 -256/00016 T11-244/01803 T13-245/01785 T16-246/01787			86	521209	521236		524327 523750		383	49	518645	-	383	518646	8PJ1473	518647
T24-35	1300/1111	It is not possible to replace the fan motor.	05/331	28.10.05	T24-252/01526 T35-254/01353	4PJ1600	521066	72	523750	523751	60	523748	523749	383	56	523730		383	523731	10PJ1473	523732
T24-35 3	Iron intermediate pulley with smaller diameter and smaller motor pulley. ON REVERSING MACHINES 50 Hz ONLY	Modification of DRIVE SUPPORT necessary - see service instruction 527721 and rebuild sets 527735 ÷ 527741.	D06-33 D06-34 D06-81 D07-08	17.3.06	T24-252/01867 T35-254/01853	6PJ1067	524255	24	527856	-	-	-	-	135	56	524224	-	383	523731	10PJ1473	523732
<u>T9</u> T11-16	T9 Change of diameter of 11-16 motor pulley and	Modification of DRIVE SUPPORT necessary - see service instruction 527721 and rebuilt sets 527735 ÷ 527741.	ECN360 D07-17 D07-29	Tempor. solution: 19.2.07 Final solution: 14.8.07	11T002404LE 13T002249LE 16T002618LE	4PJ1397 4PJ1473		42	527707	527723	34	528921	528922	383	96	527733	527742	383	518646	8PJ1473	518647
T24-35					24T002449LE 35T002309LE	6PJ1600	528925	40	527708	527724	32	528923	528924					383	523731	10PJ1473	523732
T24 T35	Stronger drum pulley	Use new code 530681 instead of 523731.	ECN1046	10.10.08	24T003307NT 35T002862NT	6PJ1600	528925	40	527708	527724	32	528923	528924	383	96	527733	527742	383	530681	10PJ1473	523732
<u>T9</u> T11-16	Application of FLYWHEEL - to reduce squeaking noise of belts.	New pulley must be fixed by using M5x16 bolt in shaft of the	ECN1203 ECN1131		9T002483PE 11T002979NV 13T002979NV 16T003856MX	4PJ1397 4PJ1473		42	530720	527723	34	530721	528922	383	96	527733	527742	383	518646	8PJ1473	518647
T24-35	ON REVERSING MACHINES ONLY	motor.	ECN1080	10.10.08	24T003315MT 35T002868NT	6PJ1600	528925	40	530690	527724	32	530719	528924					383	530681	10PJ1473	523732
<u>T9</u> T11-16	Intermediate pulley modification - better	Use new code 534676 instead of 527742. Washer 311125000013 must be added between sliding plate and	ECN1420	5.11.09	9T002979PT 11T003201PV 13T003084PV 16T004309PV	4PJ1397 4PJ1473		42	530720	527723	34	530721	528922	383	96	534703	534676	383	518646	8PJ1473	518647
T24-35	T24-35	shaft.			24T003748PV 35T003112PV	6PJ1600	528925	40	530690	527724	32	530719	528924					383	530681	10PJ1473	523732

Each drive version means a certain combination of pulleys diameters; pulleys of the same drive version are mutually replaceable
 Assembly contains pulley, bearings, shaft and retaining rings; it is recommended to replace always the complete assembly
 Part numbers in grey - not recommended to use, to be replaced by new executions

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			Motor	^r belt		50.1	Motor	pull		1	l	nteri	mediate j	bulley	Dru	m pulley	Drum	belt
Туре						50 H	z umber		60 H	lz umber			, Dort n	umber				
	From serial number	Till serial number	_		eter			eter	Faith		am.	dia	Faith		eter		_	
			Туре	P.N.	Diameter	revers- ing	non-re- versing	Diameter	revers- ing	non-re- versing	Big diam.	Small dia.	Pulley	Assem bly 1)	Diameter	P.N.	Туре	P.N.
	256/00016	9T000747LE			86	521209	521236	69	524327	524328		49	518645	-				
Т9	9T000748LE	9T002482PE	4PJ1397	515553		527707	527723	34	528921		383	,	527722	527742	383	518646	8PJ1473	518647
13	9T002483PE	9T002978PT		515555	42	530720			530721	528922	505	96			505	510040	01 51475	510047
	9T002979PT					000720			000721				534703	534676				
		T11-244/01802														3 518646		
		T13-245/01784			42	515505	515523	34	515506	515524							8PJ1473	
		T16-246/01786										49	518645	-				
	T11-244/01803	11T002403LE						72										518647
	T13-245/01785	13T002248LE				521209	521236		523750	523751								
	T16-246/01787	16T002617LE		E1E409										527742 534676	-			
T11 10	11T002404LE	11T002978NV	4PJ1473			F07707			500004	0.0	383	3			383			
T11-16	13T002249LE 16T002618LE	13T002978PR		515498		527707			528921		383							
	11T002979NV	16T003855NX 11T003200PV						3 34		-								
	13T002979NV	13T003083PV			42	2 530720	527723			528922	2	96						
	16T003856MX	16T004308PV			42							90						
	11T003201PV	101004300F V							530721									
	13T003084PV												53/703					
	16T004309PV												554705					
	10100-0001 V	T24-252/01525																
		T35-254/01352	4PJ1600		6	515505	515523	34	515506	515524	383		44 521101	-		518646	8PJ1473	518647
	T24-252/01526	T24-252/01866		521066		523750	523751	60										
	T35-254/01353	T35-254/01852							523748			56	523730	-		523731		
	T24-252/01867	24T002448LE		504055		507050					405		6 524224		-			
	T35-254/01853	35T002308LE	6PJ1067	524255	24	527850	-	-	-	-	135	90	524224	-				
T24-35	24T002449LE	24T003306NT													383			
124-33	35T002309LE	35T002861NT	6PJ1600	528925	5 40	527708			528923			96			303		10PJ1473	523732
	24T003307NT	24T003314NT					527724		520925				527733	5277/2			10531473	523732
	35T002862NT	35T002867NT								528924	383		521155	7733 527742				
	24T003315MT	24T003747PV				530690					303					530681		
	35T002868NT	35T003111PV							530719							230081		
	24T003748PV					200000			2001 10				534703	534676				
	35T003112PV			<u> </u>									001100	001070				

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Drive version 1 (3000 RPM)

Motor pulley 515505 (515523)

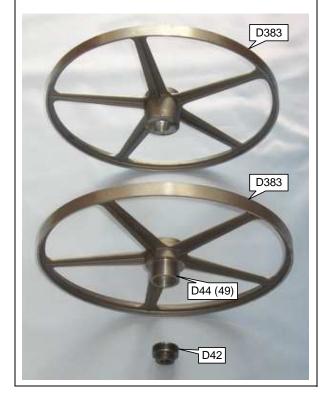


Intermediate pulley 521101 (518645)









Drive version 2

Motor pulley 523750 (523751, 521209, 521236)



Intermediate pulley 523730 (518645)







D383

D383

D72 (86)



Motor pulley 527856

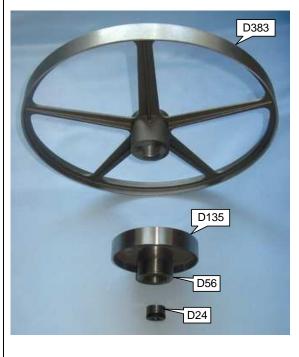


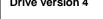
Intermediate pulley 524224

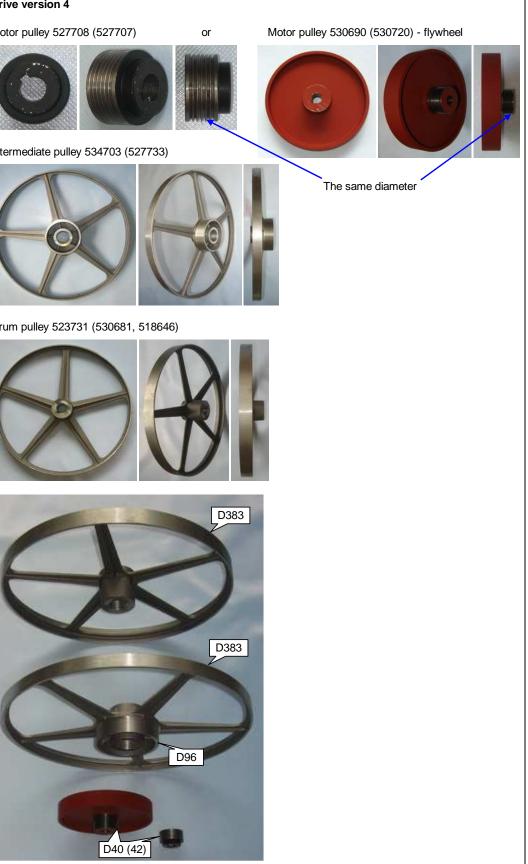


Drum pulley 523731















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Part numbers in brackets are not shown on the photos but are very similar to the ones shown here Diameters in brackets belong to the part numbers in brackets

D56 (49)