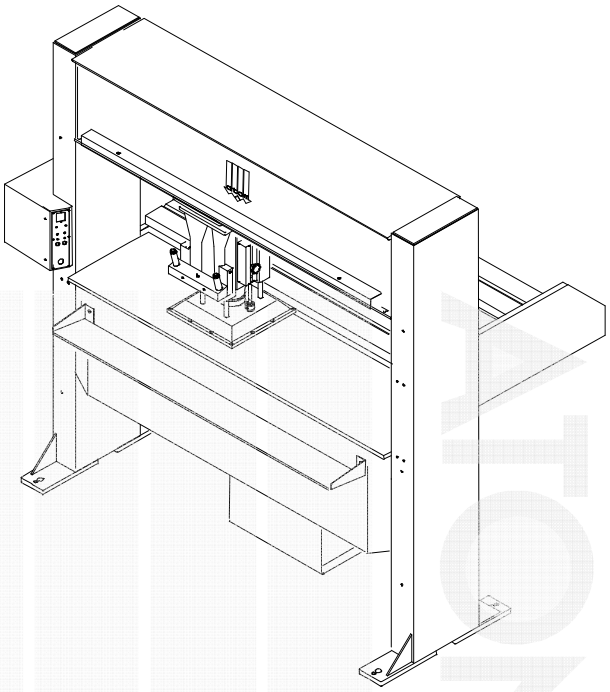
HSP588



WITH MOVABLE TROLLEY OILDYNAMIC CUTTING PRESS

Instructions, Use and Maintenance Manual

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SUMMARY

GENERAL INFORMATION

1 General information

1.1 Important

This travelling head press can be used to cut natural or synthetic leather/hide, cloth, cardboard, etc. No metallic materials or materials having metals inside, as well as materials which could be prejudicial to operator's health (i.e. asbestos) should be cut.
The machine must not be used in an explosive environment or to cut materials with hazard of explosion.
The machine must be used by a SINGLE operator.
The pictures in this instruction manual show the **HSP 588** travelling head press without accessories (see pertinent paragraph).
This machine is delivered with a kit of wrenches and a series of components of the rear table and its pertinent safety guards, to be assembled (for assembling see pertinent paragraph).

ATOM S.p.a. expect you may utilize the product at the best with your full satisfaction.
For any doubt or further advice, do not hesitate to contact ATOM S.p.a.

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1.2 Technical data

Features		Machine types HSP 588			
		588/1	588/2	588/3	588/5
Maximum cutting power	ton	20	20	25	25
	kN	196	196	245	245
Cutting table: breadth	mm	1500	1600	1600	2000
extent	mm	430	500	500	500
Travelling head size:	mm	430	500	500	500
breadth extent	mm	430	500	500	500
Max daylight (without pad)	mm	175	175	175	175
Adjustable stroke	mm	5÷150	5÷150	5÷150	5÷150
Noise level	dBA	See paragraph 1.3			
Travelling head speed: descent / cutting	mm/s	105	105	85	85
displacement	m/s	1.07	1.07	1.07	1.07
Max power	HP	2	2	2	2
motor pump	kW	1.5	1.5	1.5	1.5
Max power	HP	1	1	1	1
motor travel.head	kW	0.75	0.75	0.75	0.75
Weight (with oil)	Kg	1470	1495	1500	1800
Weight (with pallet)	Kg	1510	1535	1540	1850
Weight (with sea packing)	Kg	1750	1775	1780	2180
Dynamic overload	Kg	100	100	100	100
Hydraulic oil	Kg	50	50	50	50

1.3 Acoustic emission of the machine

Features of working and **NOT OPERATIVE** machine
Leq < 70 dB (A)
Lpc < 130 dB (C)
Features of working and **OPERATIVE** machine
1) Hide or synthetic leather, thickness 1.5÷2 mm at 15 SPM
- with 1 layer **Leq** = 79 dB (A) and **Lpc** < 130 dB (C)
- with 4 layers **Leq** = 84 dB (A) and **Lpc** < 130 dB (C)

2) Reclaimed leather, thickness 2 mm at 20 SPM
- with 4 layers **Leq** = 75 dB (A) and **Lpc** < 130 dB (C)

NOTE:
The index level depends on the carrying out working (as well as on the machine setting up conditions); the index levels of any working are reported as an example.
CAPTION
Leq: equivalent continuous level of acoustic pressure at operator site
Lpc: level of sound pressure peak at operator site

1.4 Programmed cut-counting device (optional)

The travelling head press SP588 can be equipped, by request, with a programmed cut-counting device; in this case it is necessary point out as follows:
IMPORTANT: when it is reached the programmed number of cuts, the travelling head DO NOT EXECUTE its automatic return but it stops, when the cut has been performed, over the die. Disable the cut-counting device and use the proper pushbuttons to move the travelling head.

1.5 Overall dimensions

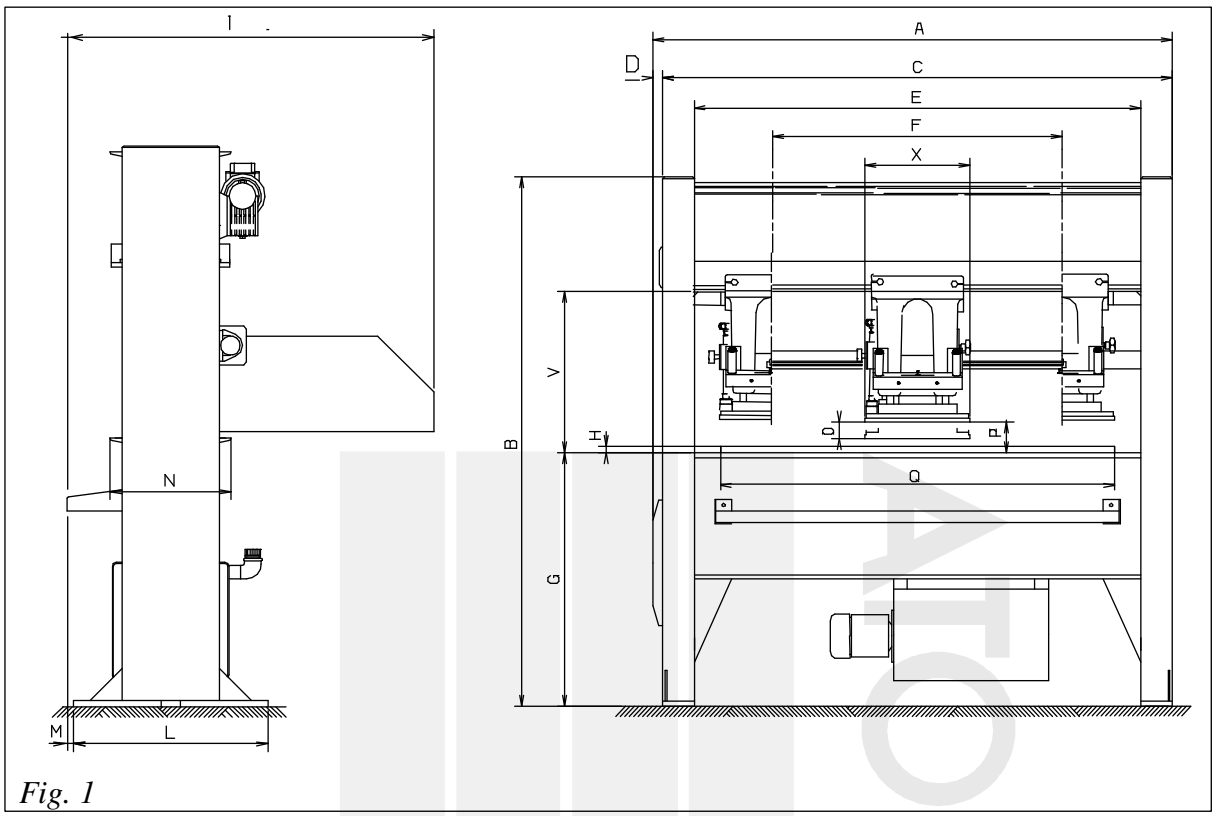


Fig. 1

Ref. (mm)	Machine types			
	HSP 588/1	HSP 588/2	HSP 588/3	HSP 588/5
A	2140	2140	2140	2540
B	2010	2010	2010	2160
C	1940	1940	1940	2340
D	200	200	200	200
E	1700	1700	1700	2100
F	1100	1100	1100	1500
G	965	965	965	965
H	25	25	25	25
I	1299	1379	1379	1379
L	700	700	700	700
M	9	9	9	9
N	430	500	500	500
O	150	150	150	150
P	143	143	143	143
Q	1520	1620	1620	2020
V	780	780	780	780
X	430x430	500x500	500x500	500x500

1.6 Optionals accessories

The machine can be equipped with the following optional accessories:

- material feeding devices: AL81 - AL82 - AL85 - AL86
- PR roll-holders (versions with 4-8-12 rolls)
- simple cut-counting device
- programmed cut-counting device
- magneto-thermal switch (pump and travelling head motors)
- shock absorbers
- set of wheels for machine displacement.

1.7 Recommended spare parts

On completion we also advise the following list of spare parts (**according to decreasing priority**):

- no. 2 cutting pushbuttons micro-interrupter s (code 02000310)
- no. 2 travelling head stroke-end micro-interrupter s (codes: 02000313+02000698)
- no. 2 travelling head displacement m micro-interrupters (code 02002346)
- no. 2 pushbuttons covers (code 02000051)
- no.1 set of printed circuit cards (codes: 02003100+03E02241)
- no.1 travelling head return potentiometer (code 02001422)
- no.1 insert for joint (code 01002010)
- no.1 electromagnet (code 02Z01746)
- no.1 outside horizontal flex. pipe (for HSP 588/1/2/3: code 02002300) (for HSP 588/5: code 02002357)
- no.1 flex. pipe tank-flow regulator connection (code 02003063) cod. 02003095; per HSP 588/2/3/5: cod. 02003062)
- no.1 flex. pipe flow regulator - delivery pipe connection (for HSP 588/1: code 02003095; for HSP 588/2/3/5: code 02003062)
- no.1 tank flex. pipe (code 02003110)
- no.1 set of piston seals (for HSP 588/1/2: codes: 02002294+02002293+02002292) (for HSP 588/3/5: codes 02001942+02001941+02001940)
- no.1 gear pump (for 50 Hz motor: code 02003066) (for 60 Hz motor: code 02003083)
- no.1 travelling head motor remote control reverse (code 02E03865)
- no.4 travelling head springs (for HSP 588/1/2: code 01010680) (for HSP 588/3/5: code 01010681)
- no.1 electro-valve (code 02003048)
- no.1 oil filter (code 01003863)

and the following **wear material**:

- no.1 cutting board (for HSP 588/1: code 02003098) (for HSP 588/2/3: code 02000738) (for HSP 588/5: code 02000739)
- no.1 striking plate (for HSP 588/1: code 01010679) (for HSP 588/2/3/5: code 01003584)
- no.12 screws (for HSP 588/1: code 02000585) (for HSP 588/2/3/5: code 02002145)
- no.12 washers (code 02000338)
- no.12 nuts (code 02000148)

1.8 Spare parts request

IMPORTANT: in order to guarantee the perfect efficiency of the machine it is imperative to use ATOM original spare parts.
For a quick supply of spare parts the following information is requested:

a) required quantity
b) part number (as shown in the spare parts catalogue pages)
c) type of machine
d) serial number of the machine

For instance:

no. 2 pieces, code 02000310, cutting press HSP 588 /...., Serial No.

MACHINE SETTING UP

2 Machine setting up

2.1 Preliminary operations

Before connecting up the machine, ensure that the factory voltage corresponds to the one indicated on the label fixed on the left side of the machine (Fig. 1).
If, for any reason, the voltage of the motors should be changed (pump and trolley translation), it is imperative to adapt the transformer voltage to the desired one, moving the pertinent wire.
Carry out this operation with the machine completely disconnected from the electric network !

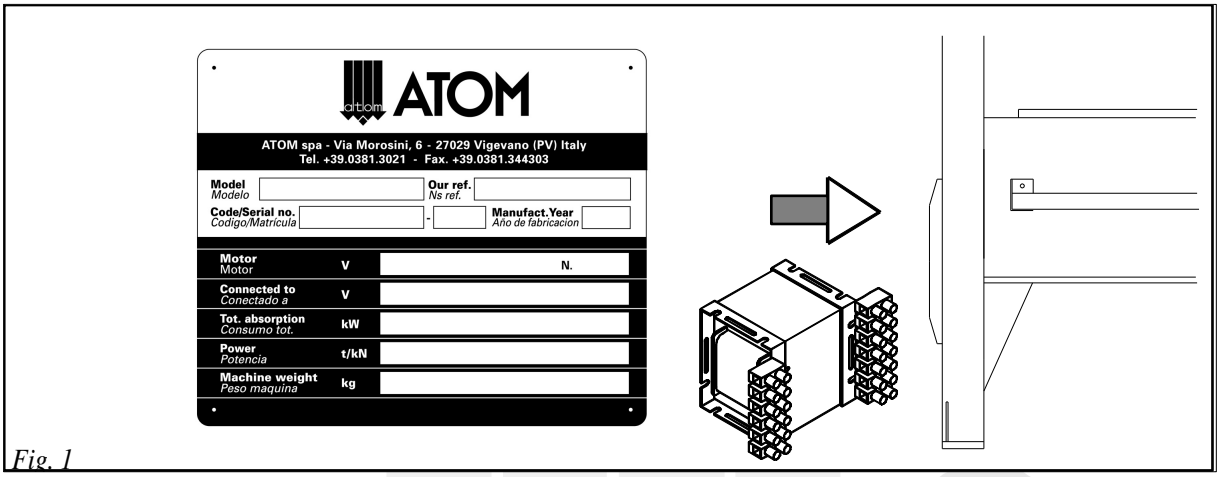


Fig. 1

2.2 Machine setting up

The machine is delivered already tested in our factory, with the right quantity of oil (50 Kg approx.) and the electric motors (pump and trolley translation) connected to the requested voltage.
On first switching on of the machine, through the main switch (A), the pump rotation direction is correct if:

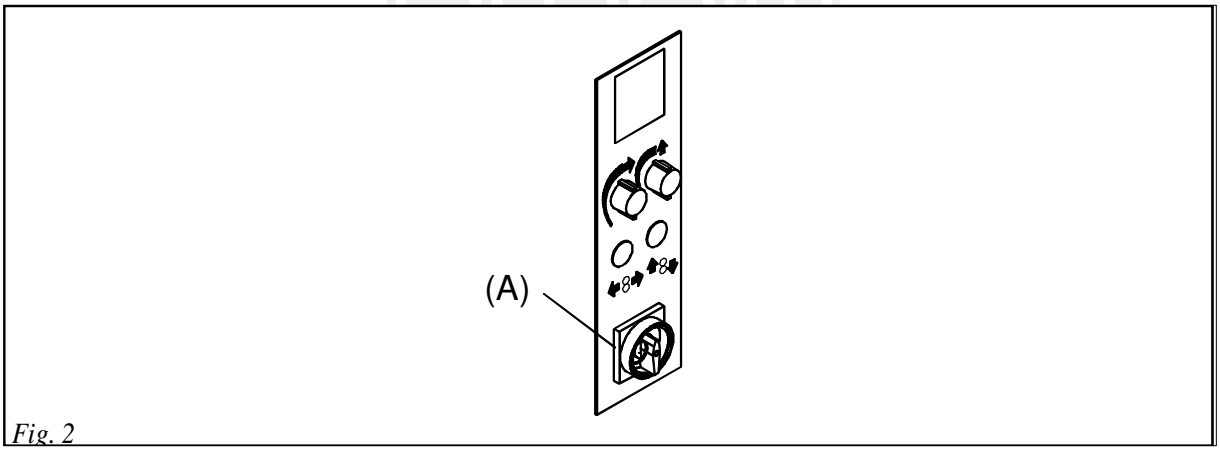


Fig. 2

The travelling head moves correctly:

- to the left, when actuating the push-button for the trolley displacement (O)

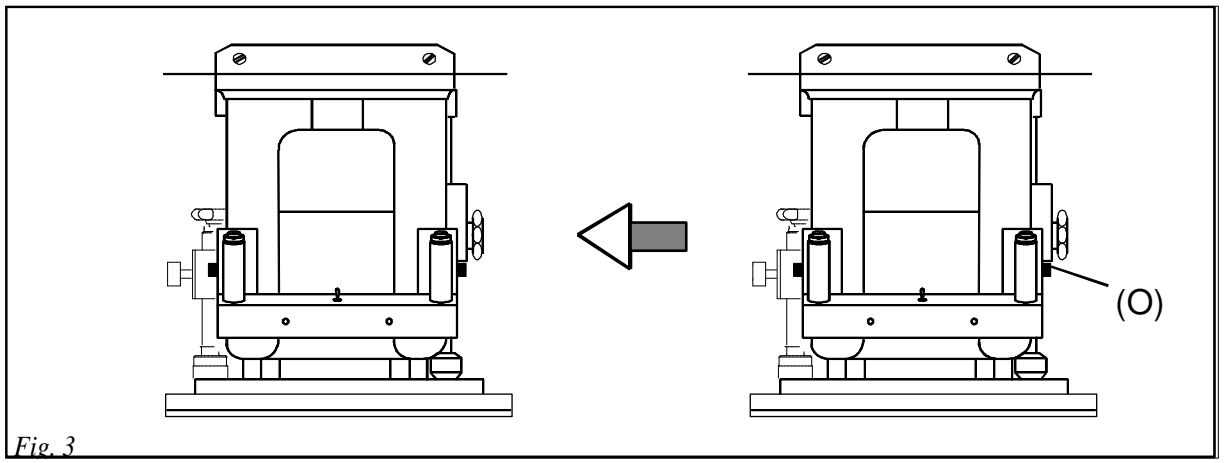


Fig. 3

- to the right, when actuating the push-button for the trolley displacement (I)

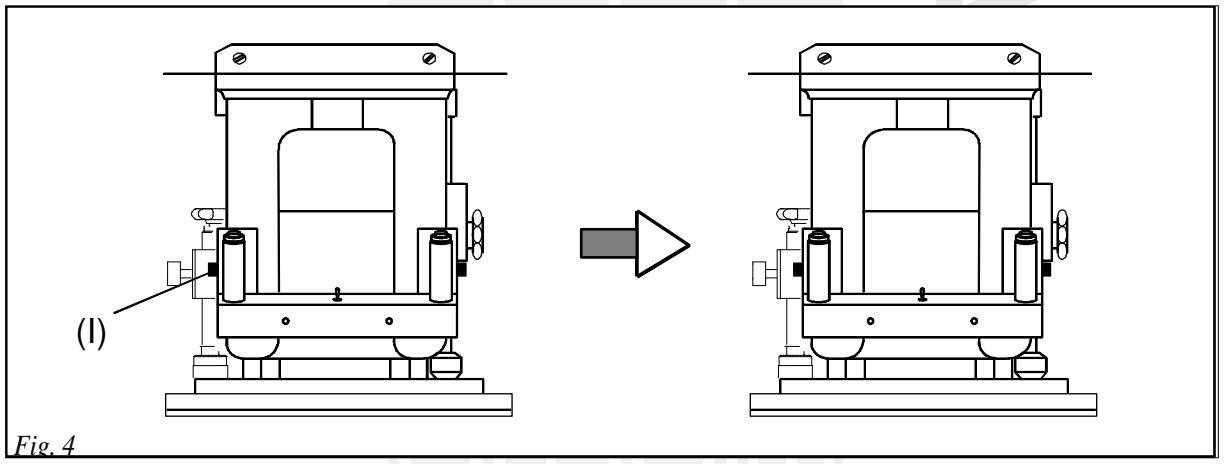


Fig. 4

Should the trolley move to the opposite direction it is necessary to change the polarity of the connections.

MAINTENANCE

3 Maintenance

3.1 Maintenance operations

For a good machine efficiency it is recommended to periodically carry out the following maintenance operations (points e) g) to be carried always when the machine is off !):

a) clean the travelling head slides (code 01003574 - versions /1/2/3, code 01003575 - version /5, table. 3);

b) check the correct chain pull monthly and, if necessary, provide for its adjustment by turning clockwise the turn buckle (code 01010596, table. 5) placed outwardly on the left side of the machine. Use a dynamometric wrench by applying a torque of 1.5 ÷ 2.0kgm. approx. (Fig. 1)
DO NOT EXCEED SUCH VALUES IN ORDER TO AVOID ANY DAMAGE TO THE GEARS !

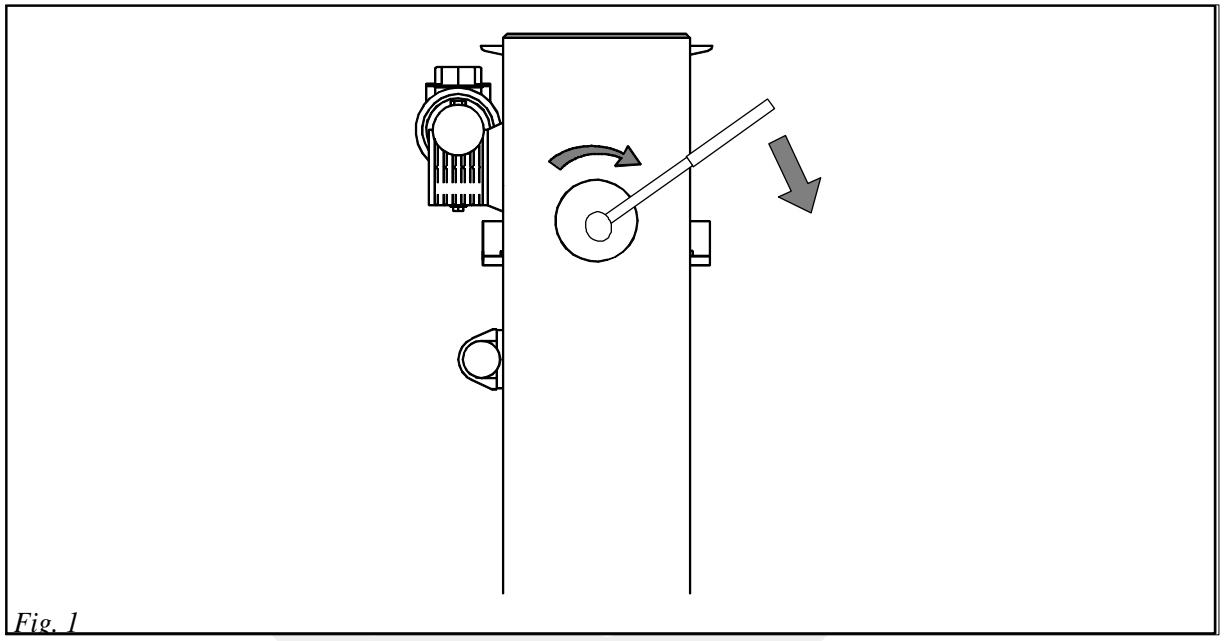


Fig. 1

c) turn upside-down the cutting board (code 02000737 - version /1, code 02000738 - versions /2/3, code 02000739 - version /5, table. 1) every week and level it whenever it presents wears or depressions of nearly 2 mm;
d) turn upside-down and rotate of 180° the travelling head aluminum alloy plate (code 01010679 - version /1, code 01003584 - versions /2/3/5, table. 7) at least every three months to guarantee the flatness of the contact surface and its gradual wear;
e) replace the hydraulic oil of the machine as well as of the relevant filter (code 01003863, table .9) every 8000 working hours;

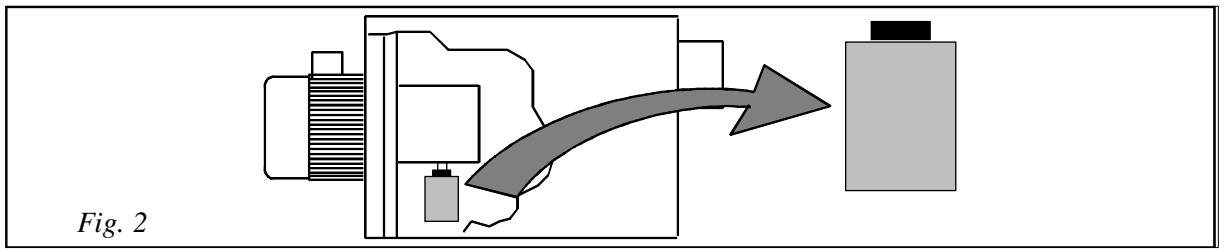


Fig. 2

f) the hydraulic oil must have the following chemical-physical features (ISO 46, 3.5° - 4° Engler a 50° C):

- SHELL Tellus 46;
- ESSO Nuto H 46;
- TOTAL Azolla 46;
- AGIP Oso 46.

g) IMPORTANT: replacement of the micro-interrupter for control push-button (code 02000310) Respect the *safety* measure stated between the push-button upper side and the handle edge, as shown in the picture (table. 3).

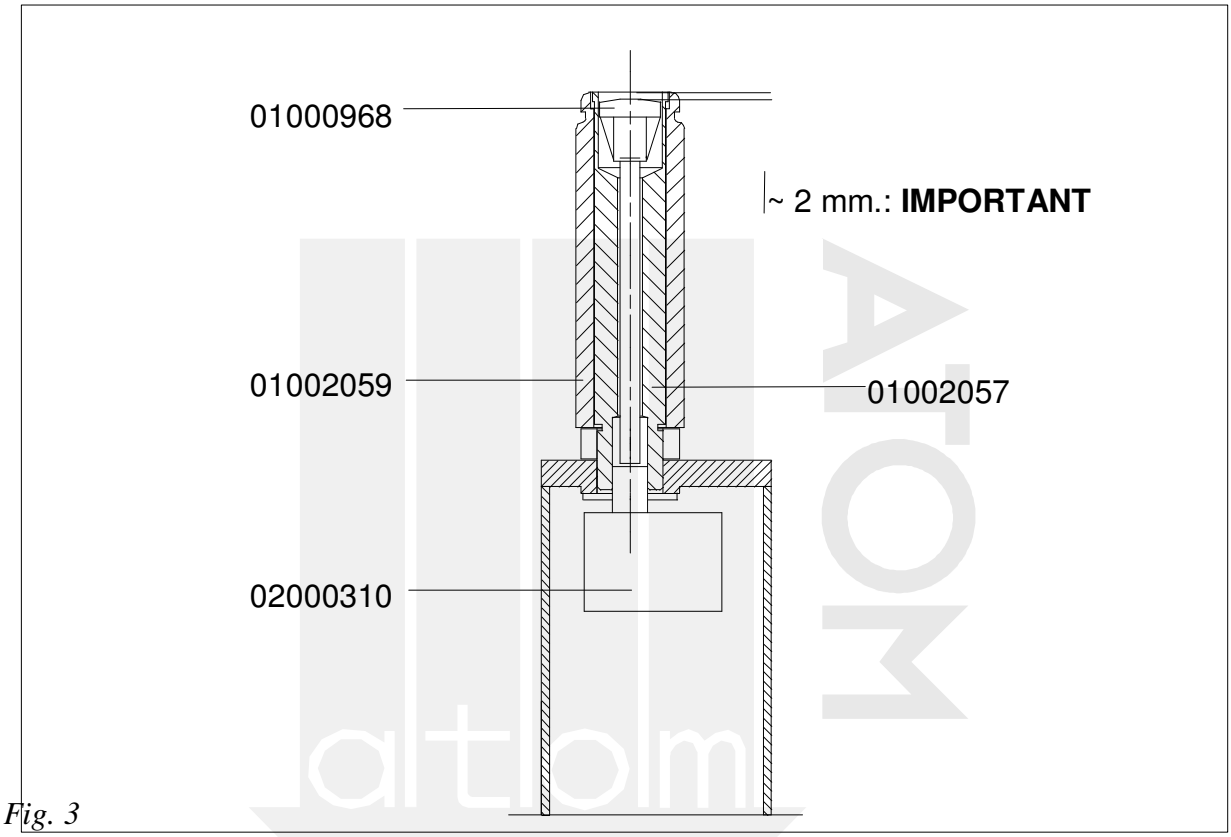


Fig. 3

h) replace the oil of the travelling head translation device (code 03000761, table. 5) every 6000 working hours with one of equal to EP 460 (Kg. 0.400).

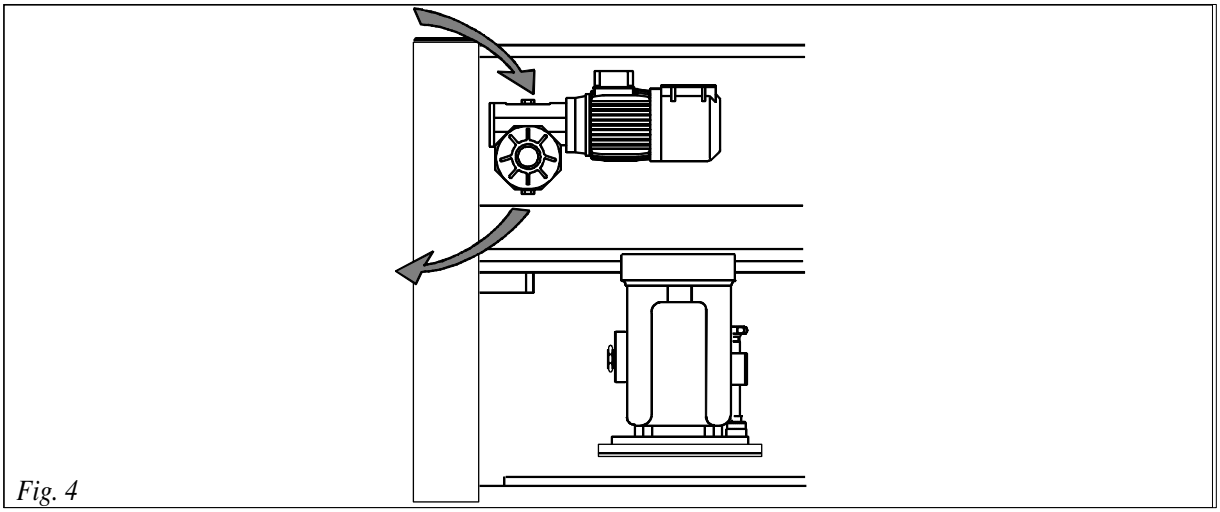


Fig. 4

3.2 Troubleshooting

1) TROUBLE: Actuating the control pushbuttons (I+L2 or O+L1)) of the machine the travelling head does not to move:
a) check if the stroke-end adjusting handwheel (code 02001743, table. 6) has loosened: in such a case repeat the stroke-end adjustment; check, furthermore, the stroke-end micro-interrupter efficiency (code 02000313, table. 6);
b) check the micro-interrupter s of the travelling head displacement pushbuttons (code 02002346, table. 6);
c) check inside the electrical equipment, the travelling head motor remote control reverse (code 02E03865, table. 12);
d) check the 4A fuse of the 24V secondary (code 02001907, table. 12);
e) replace the printed circuit card (code 02003100, table. 12).

2) TROUBLE: Actuating simultaneously the cutting pushbuttons the machine does not cut:
a) check if the stroke-end adjusting handwheel (code 02001743, table. 6) has loosened: in such a case repeat the stroke-end adjustment;
b) check the micro-interrupter s of the cutting pushbuttons (code 02000310, table. 6);
c) check the 4A fuse (code 02001907, table. 12);
d) check the cutting electro-valve (code 02003048, table. 9);
f) check the correct functioning of the pump (for 50 Hz motor: code 02003066; for 60 Hz motor: code 02003083, table. 8).

USE AND RUNNING

4 Use and running

4.1 Control devices

On the travelling head are located the mechanical controls for the cutting stroke-end adjustment and for the wished daylight between striking plate and cutting-die:

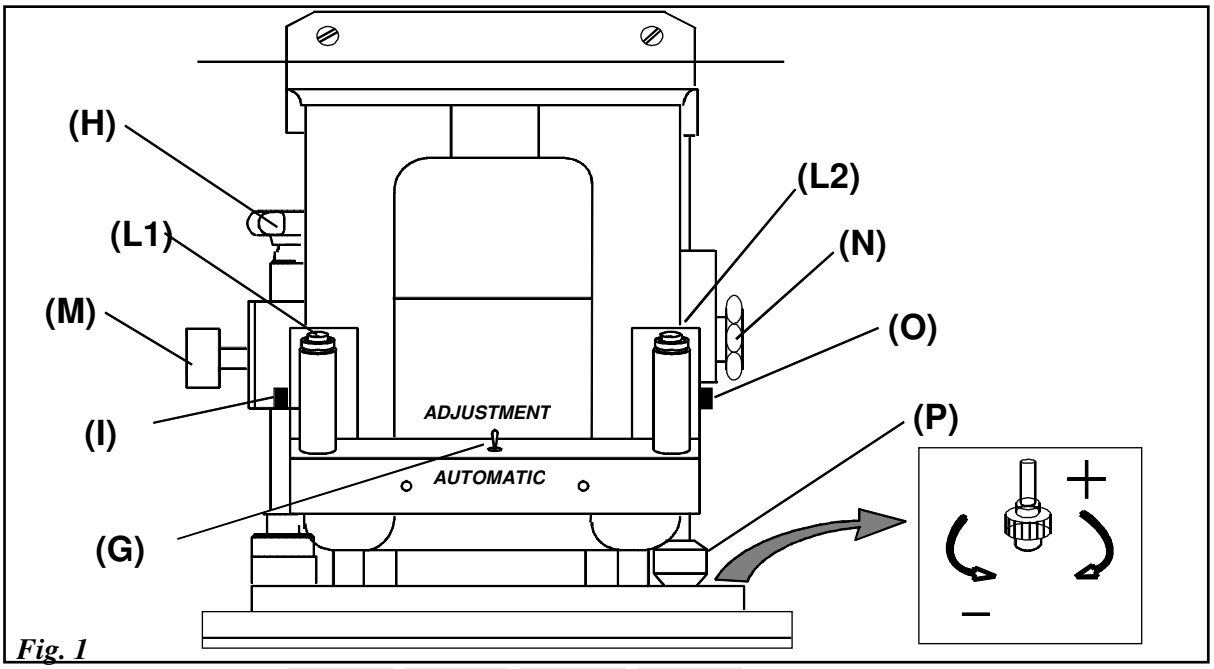


Fig. 1

(G) selector which allows either to insert the operating cycle **(*AUTOMATIC*)** or to adjust the cutting stroke-end **(*ADJUSTMENT*)**;

(H) daylight adjusting hand-wheel: it locks the striking plate ascent in the wished position;

(I and L2) pushbutton for travelling head displacement from left to right;

(L1 and L2) synchronized cutting pushbuttons;

(M) screw for adjusting hand-wheel locking;

(N) cutting stroke-end positioning hand-wheel: it allows the striking plate stroke-end setting during cutting (cutting stroke-end). By turning it counter clockwise, the stroke-end sets up on the correct cutting height; by turning it clockwise the stroke-end value stores. **Do not turn the hand-wheel during cutting operation !**

(O and L1) pushbutton for travelling head displacement from right to left;

(P) micro adjustment ring nut: it advances (counter clockwise rotation) or delays (clockwise rotation) the cutting stroke-end, thus decreasing or increasing the cutting power;

(V) daylight adjusting lever: it locks the striking plate ascent in the wished position.

4.2 Control pannel

The control panel, located on the left side of the machine, includes other electric controls:

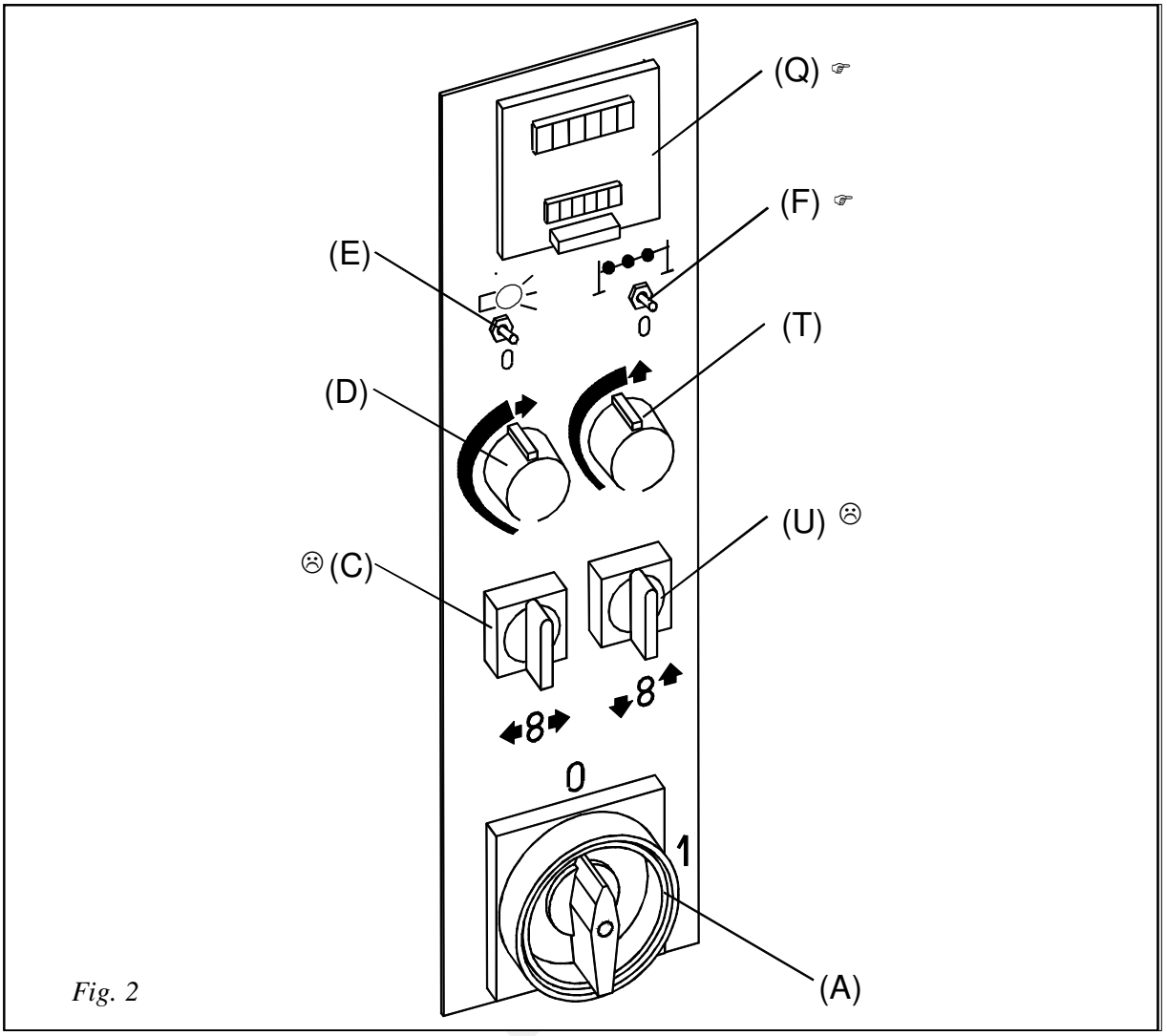


Fig. 2

(A) main switch
(C) switch for feeding in and moving back the material (■)
(D) potentiometer for travelling head return displacement
(E) lamp switch
(F) cut-counter switch (○)
(Q)cut-counter device (optional)
(T) potentiometer for striking plate ascent waiting time
(U) selector for feeding rolls opening and closing (■)
■= only for machine equipped with feeder
○= only for machine equipped with cut-counter

4.3 Stroke-end adjustment

To adjust the cutting stroke-end of the machine, operate as follows:
a) loosen the screw (M) and fully rotate anticlockwise the adjusting handwheel (H): the striking plate will rise up to its highest limit (Fig. 3).

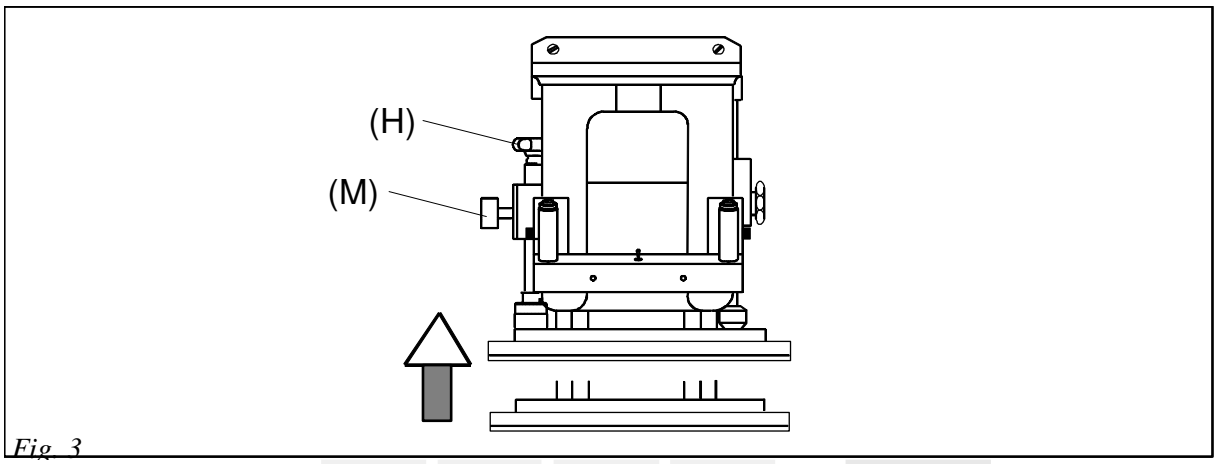


Fig. 3

b) move the selector (G) to ***ADJUSTMENT*** position and fully turn the handwheel (V) clockwise (Fig. 4).

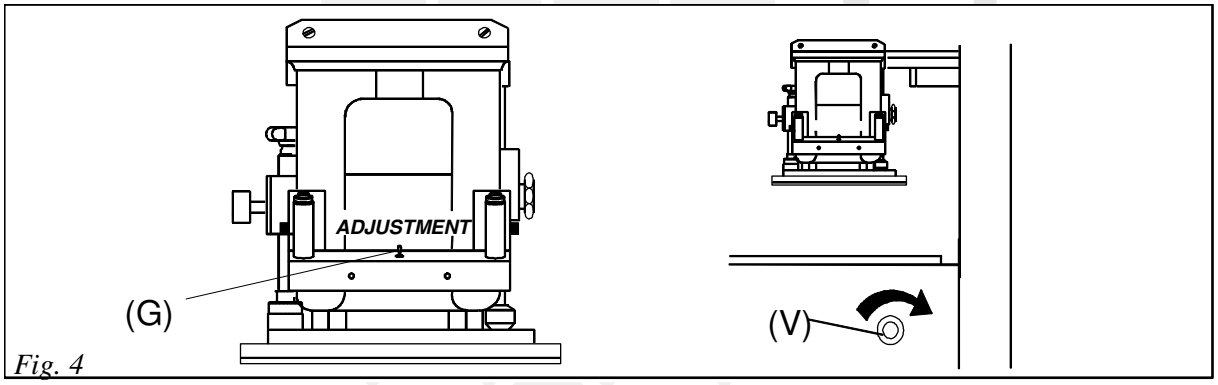


Fig. 4

c) place the cutting-die between the cutting board and the striking plate without any material to be cut (direct contact with the cutting board) (Fig. 5)

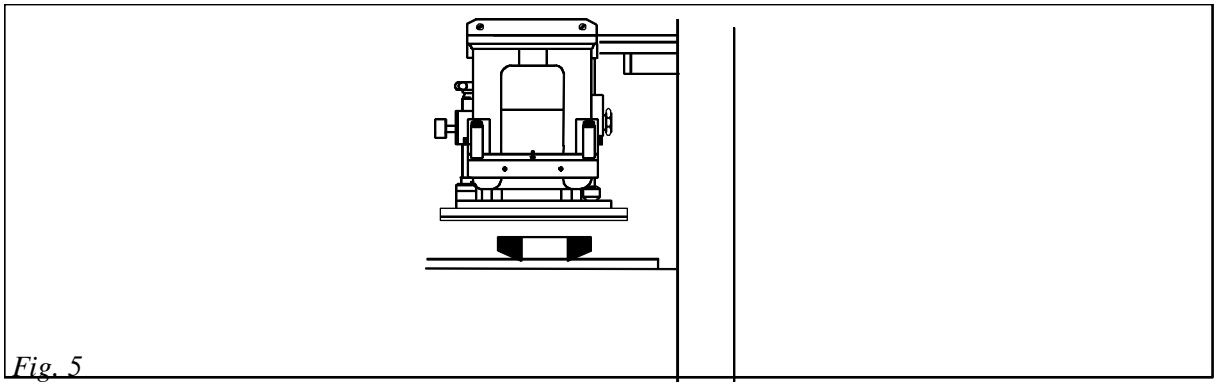


Fig. 5

d) simultaneously press the synchronized pushbuttons (L): the striking plate will move downward till gently coming into contact with the cutting die (Fig. 6)

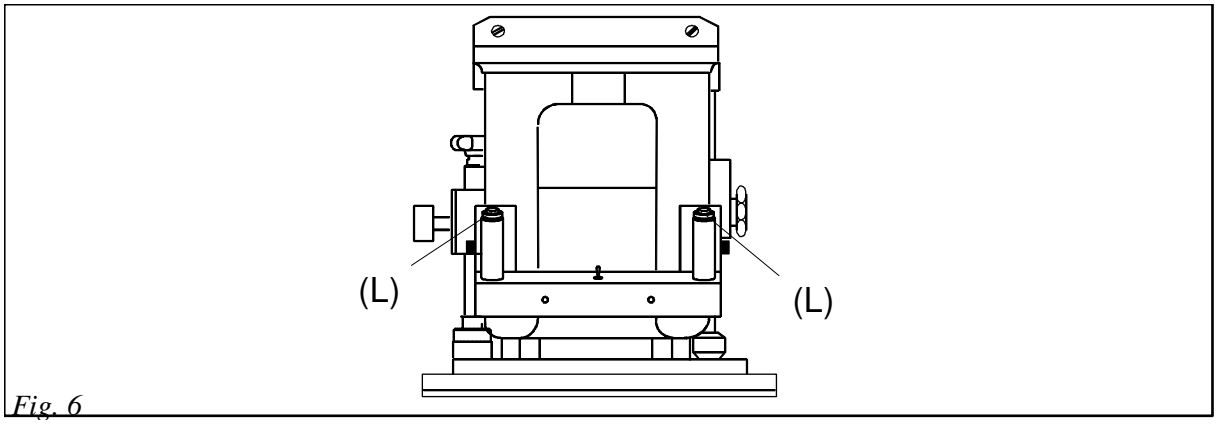


Fig. 6

e) unloosen and immediately lock the cutting stroke-end positioning hand-wheel (N) (Fig. 7).

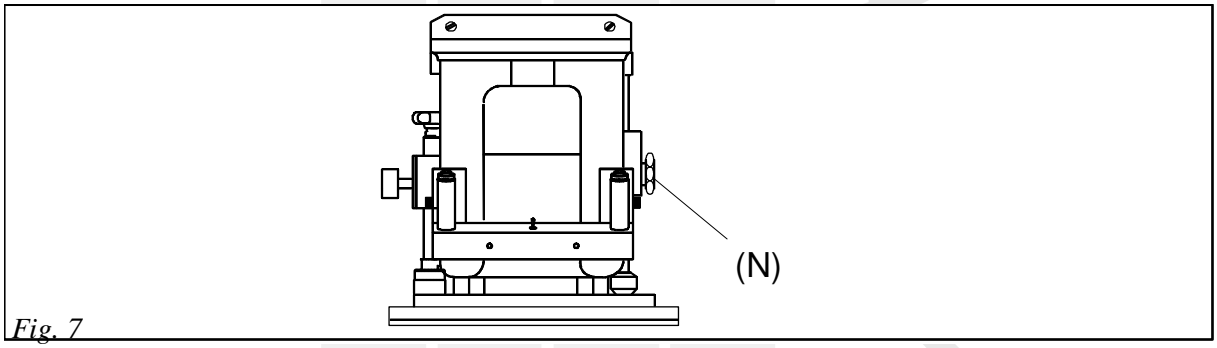


Fig. 7

f) slowly turn counter clockwise the handwheel (V) till the daylight between striking plate and cutting-die is the wished one, keeping in mind also the thickness of the material to be cut; turn again clockwise the handwheel up to its highest limit (Fig. 8)

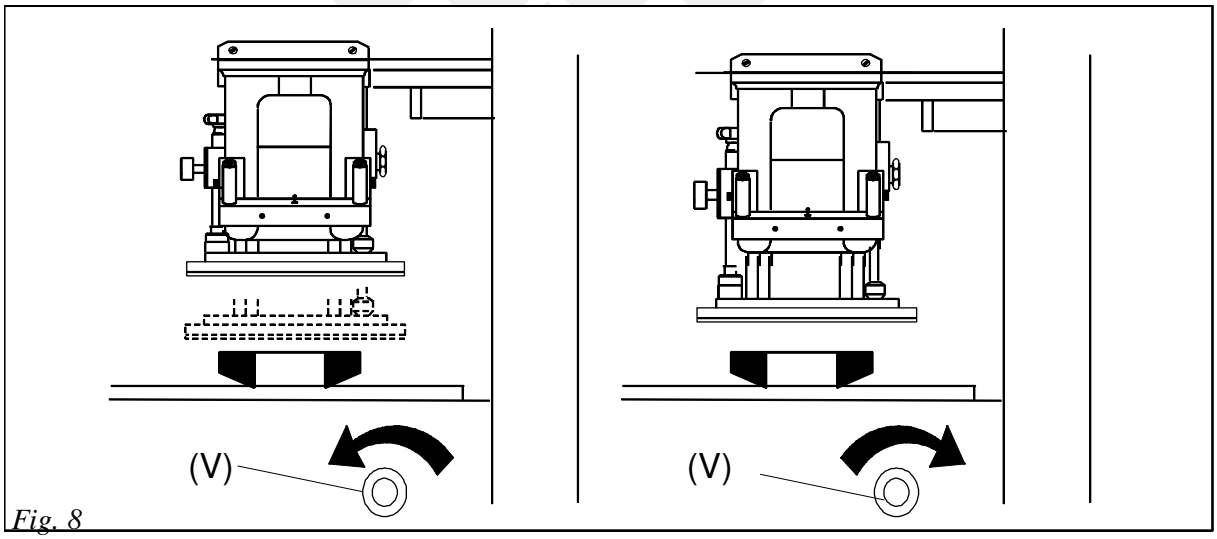


Fig. 8

g) rotate clockwise the handwheel (H) to stop the stroke of the striking plate ascent in the wished position then block the screw (M) (Fig. 9);

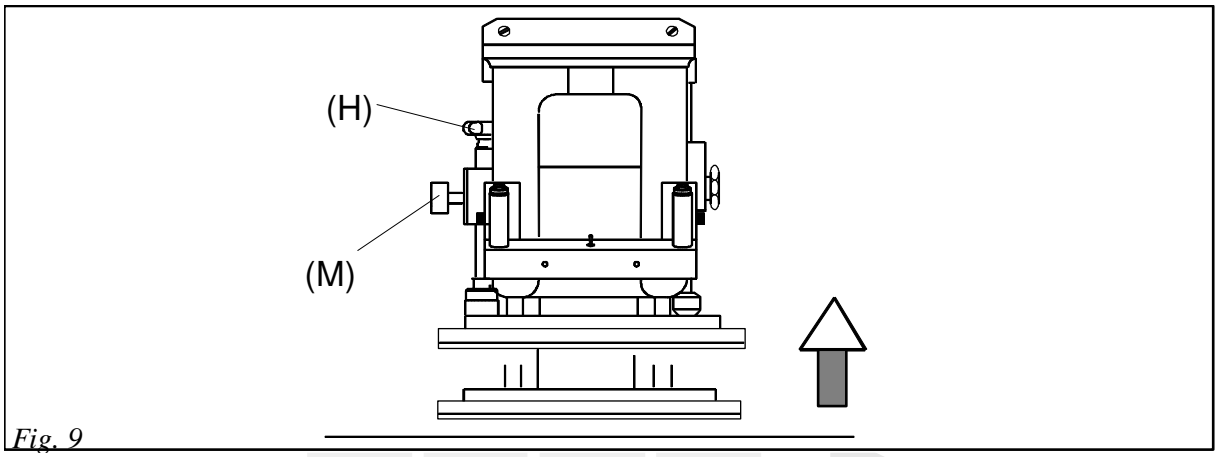


Fig. 9

h) move the selector (G) to position ***AUTOMATIC*** and fully turn the handwheel counter clockwise up to its highest limit (1 turn approx.) (Fig. 10)

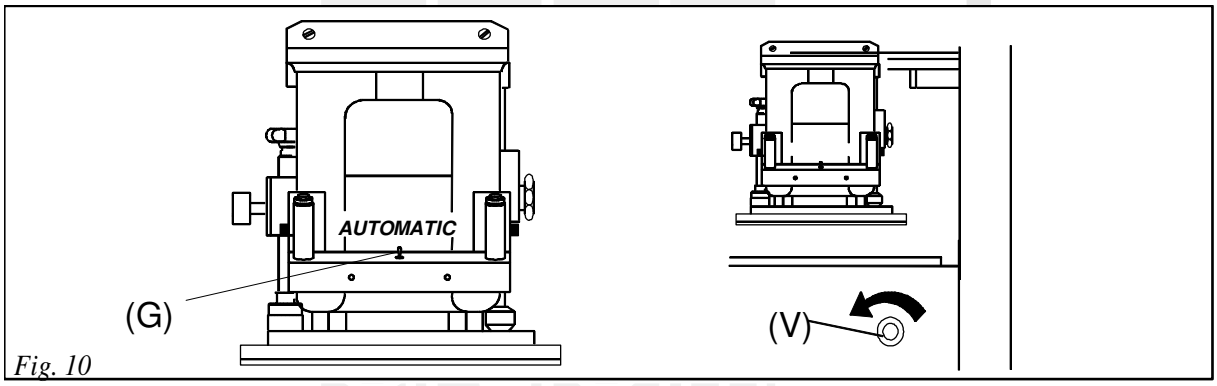


Fig. 10

i) press either the push-button (I and L2) to move the travelling head to left or the push-button (O and L1) to move the travelling head to right till unclamping the cutting-die (Fig. 11)

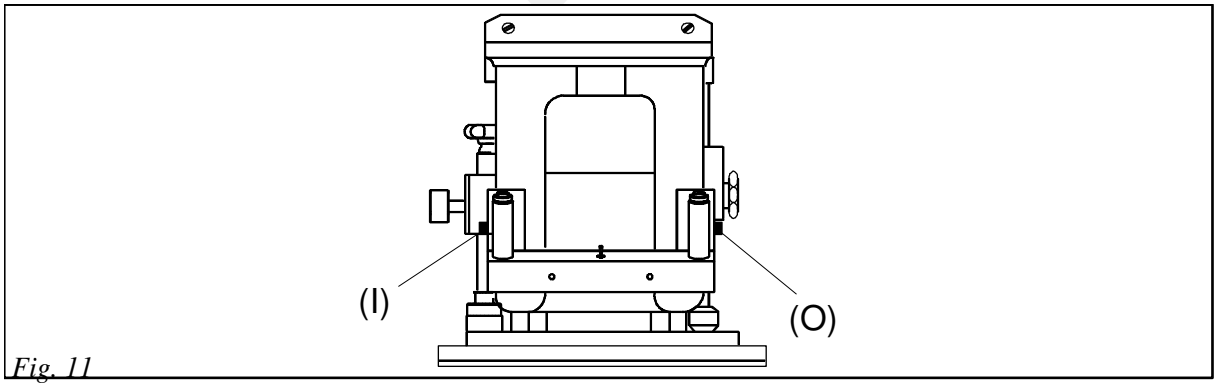


Fig. 11

At this point the machine is perfectly adjusted to employ whatever cutting-die of the same height as the one used for the stroke-end adjustment.
IMPORTANT: If for any reason you should use cutting-dies with different heights, it will be necessary to repeat the previous procedure.

4.4 Cutting operation

Once the stroke-end adjustment procedure is executed (as described in the previous paragraph), the machine is ready to carry out a complete cutting cycle. Act as follows:
IMPORTANT: for a correct use of the cutting press we recommend to always place the cutting-die in the middle of the striking plate in order to avoid projections of the tool and, in the long run, substantial damages to the travelling head

a) lay the material to be cut on the cutting table and place the cutting-die in the working area;

b) actuate either the pushbutton for travelling head displacement from right to left (O and L1) or the pushbutton for travelling head displacement from left to right (I and L2) until the travelling head covers the cutting-knife completely (Fig. 12);

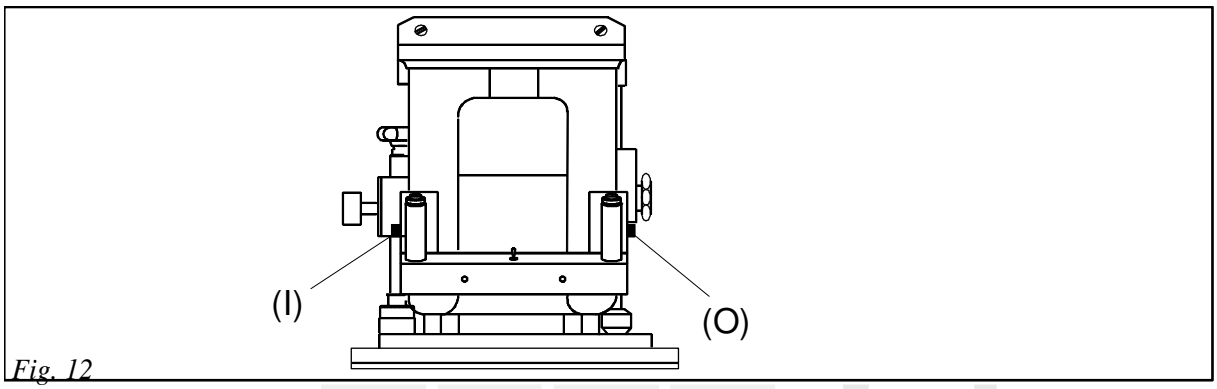


Fig. 12

c) simultaneously press the cutting pushbuttons (L) and keep them depressed until the striking plate carries out the complete cutting operation and starts its ascent; the travelling head will make the automatic return displacement towards the starting position: the amount of such an automatic return can be properly adjusted through the potentiometer (D) (Fig. 13);

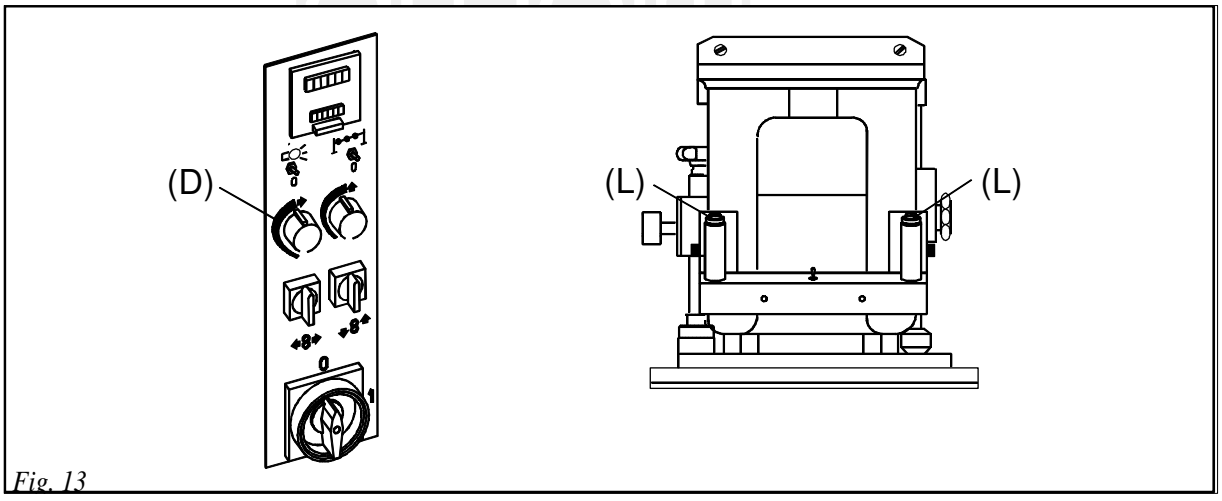


Fig. 13

d) it is possible to adjust the cutting power through the ring nut (P) following indications written on the proper plate (Fig. 14);

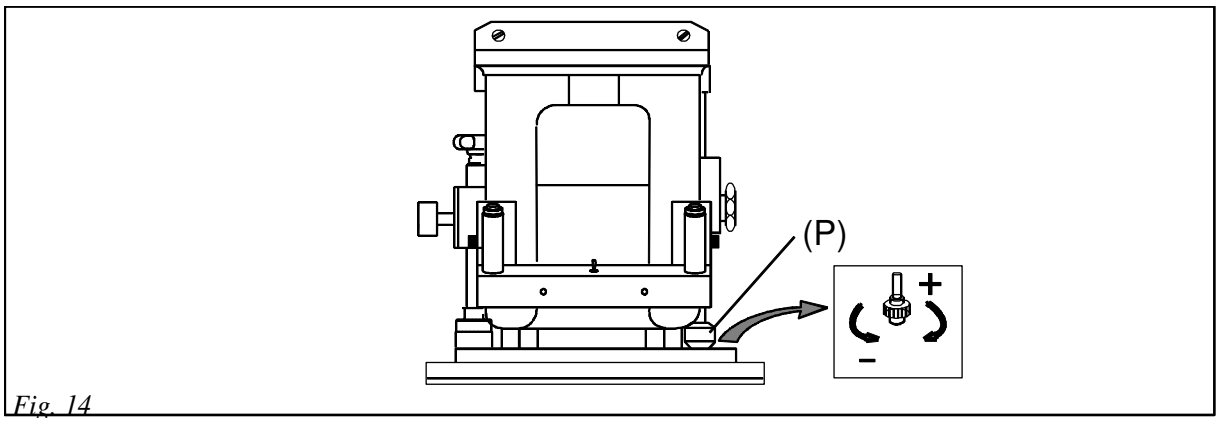


Fig. 14

f) the potentiometer (T) is utilized to cut compressible materials (foam rubber, expanded materials, etc.) (Fig. 15);

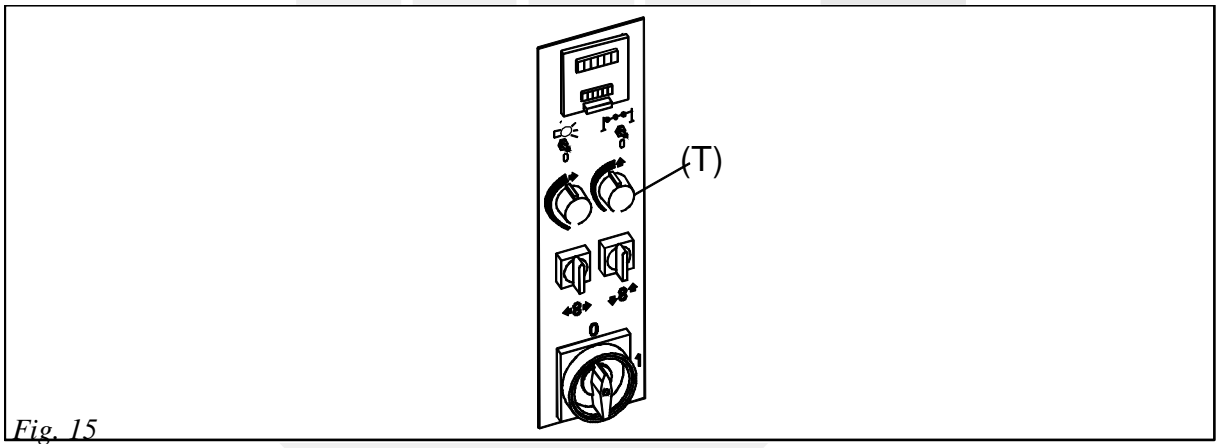


Fig. 15

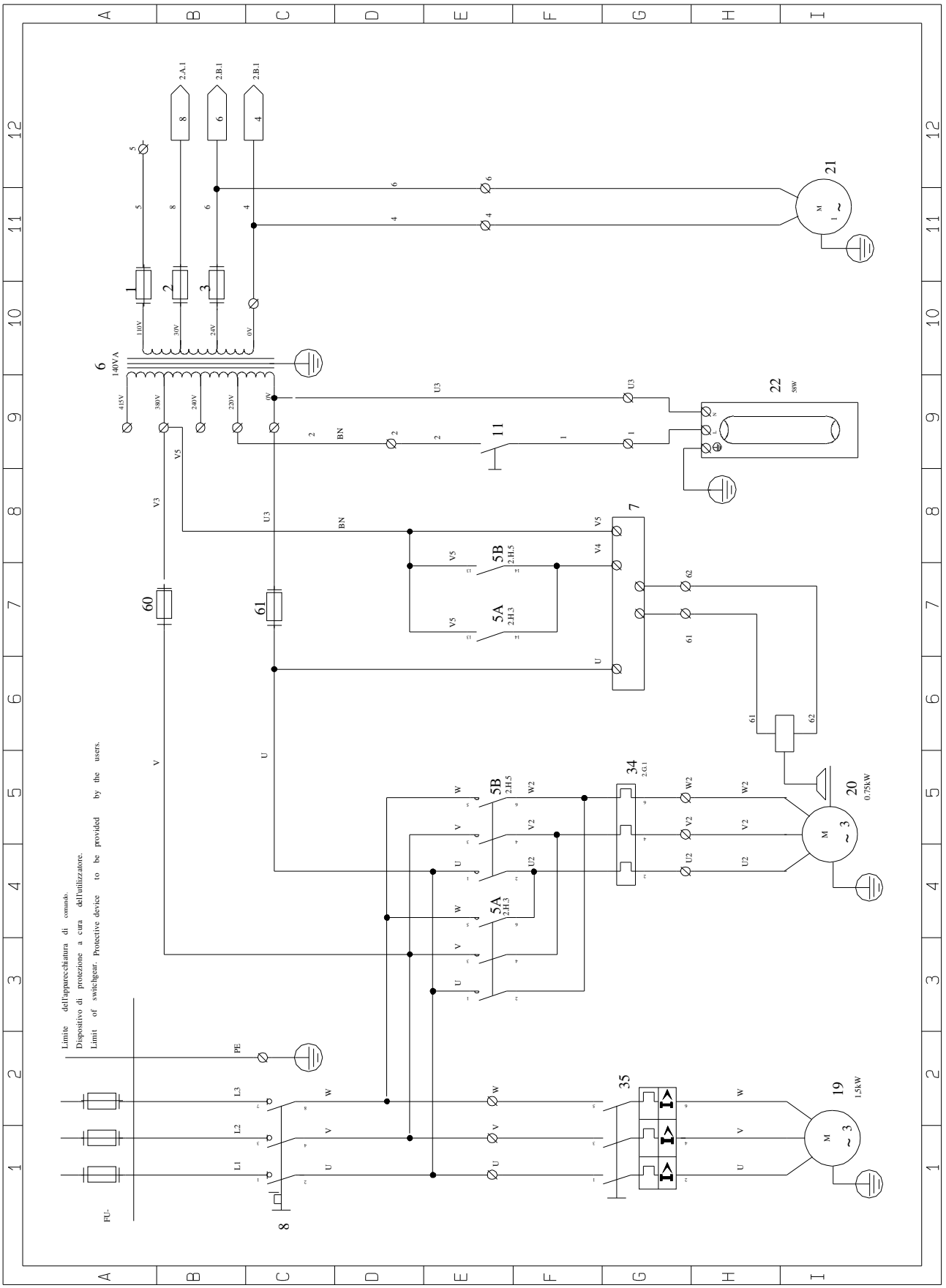
DIAGRAMS AND NOMENCLATURE

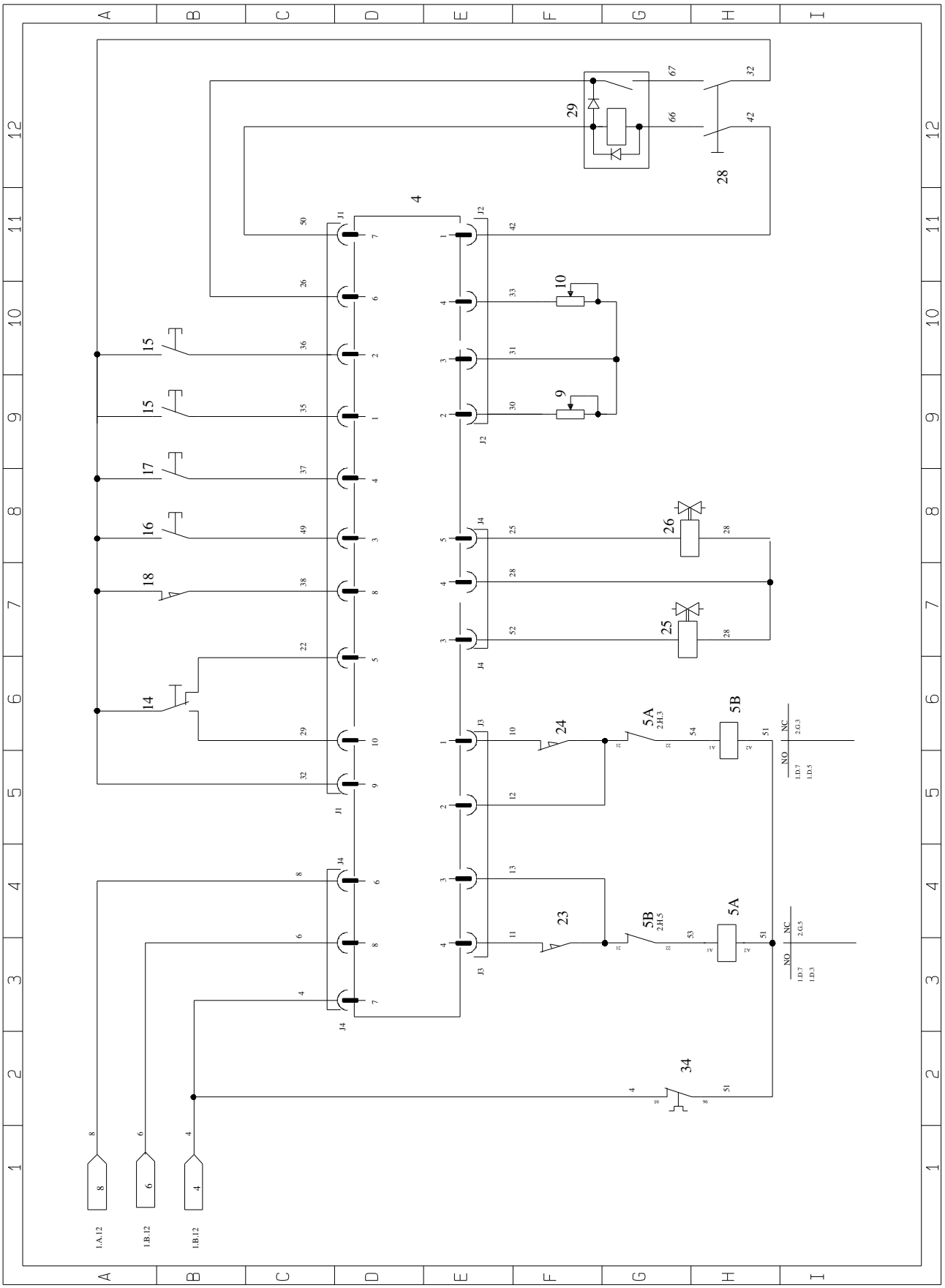
5 Diagrams and nomenclature

5.1 HSP 588 Wiring diagram nomenclature

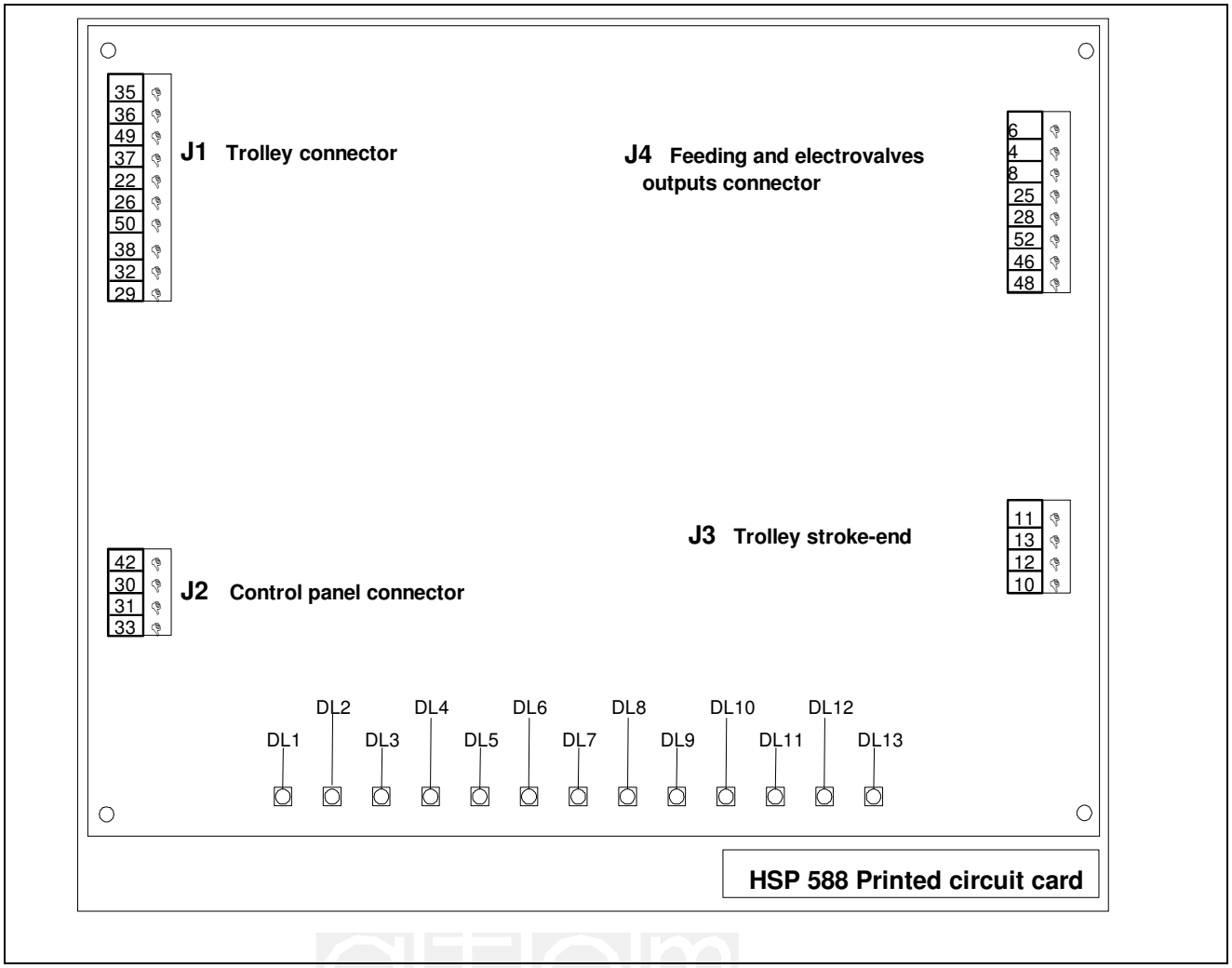
No.	Code	Components description
1	02000658	110V secondary circuit (2A) fuse
2	02E01551	30V secondary (6.3A) fuse
3	02001907	24V secondary (4A) fuse
4	02003100	Printed circuit card
5A	02E04530	24V AC/DC 1NO/NC relay-movement 1
5A		
5B	02E04530	24V AC/DC 1NO/NC relay-movement 2
5B		
6	02003102	Transformer (140VA)
7	02E05143	Inverter moving cart (VF-S15 4015 400V-1,5kW-TOSHIBA)
7	02E05495	Inverter moving cart (VF-S15 2015 220V-1,5kW-TOSHIBA)
8	02000280	Main switch
9	02001422	Striking plate ascent waiting time potentiometer
10	02001422	Travelling head return potentiometer
11	02001420	Lamp switch
12		
13		
14	02001420	AUTOMATIC / ADJUSTMENT selector
15	02000310	Cutting pushbuttons micro-interrupter s
16	02002346	Push-button for travelling head displacement from right to left
17	02002346	Push-button for travelling head displacement from left to right
18	02000313	Cutting stroke-end micro-interrupter
19	02003958	220/380V 50Hz pump motor
20	02004328	Three-phase motor 1HP 1400 RPM with splined shaft and servo fun
21	02003568	Travelling head motor fan (24V AC)
22	02002304	Lamp
23	02000313	Travelling head left stroke-end micro-interrupter
24	02000313	Travelling head right stroke end micro-interrupter
25	02004136	Cutting stroke-end positioning electro-valve coil
26	02004138	Cutting electro-valve coil
28	02001421	Cut-counting device switch (■)
29		Cut-counting device (■)
34	02E03889 02E03888	380/415V travelling head motor thermal relay (■) 220/240V travelling head motor thermal relay (■)
35	02E03880 02E03911 02E03912	550V pump motor thermal rely (■) 380/415V pump motor thermal rely (■) 220/240V pump motor thermal rely (■)
60	02000658	Transformer 2A primary circuit fuse
61	02000658	Transformer 2A primary circuit fuse
J1	02E01734	10 pins card connector
J2	02009105	5 pins card connector
J3	02009105	4 pins card connector
J4	02009107	8 pins card connector

(■) = by request


Limite dell'apparecchiatura di comando.
Dispositivo di protezione a cura dell'utilizzatore.
Limit of switchgear. Protective device to be provided by the users.
PE
FU-
L1
L2
L3
110V
30V
24V
0V
140VA
415V
380V
240V
230V
0V
2.A.1
2.B.1
2.B.1
21
22
58W
11
7
5B
2.H.5
5A
2.H.3
60
61
62
34
2.G.1
20
0,75kW
35
19
1,5kW
8


A
B
C
D
E
F
G
H
I
1
2
3
4
5
6
7
8
9
10
11
12
4
29
67
66
32
42
28
10
9
15
15
17
16
18
14
26
25
24
23
34
5A
5B
5B
5A
NC
NO
NC
NO
J1
J2
J3
J4
1.A.12
1.B.12
1.B.12

5.2 Printed circuit card description



The **printed circuit card** (code 02003100, table. 13), which controls all the machine functions, is located inside the electrical equipment protecting cover (left side of the machine). To replace it, remove the cover through the fixing screws, operate on the card fixing screws and take out the card from its connectors: the whole operation must be carried out **only when the machine is off!**

As shown in the picture, there are 13 **signalling leds** on the printed circuit card which may be useful to trace possible anomalies in the main electric devices of the machine: the operator will be able therefore to verify these devices by checking the pertinent leds on the ground of the following list:

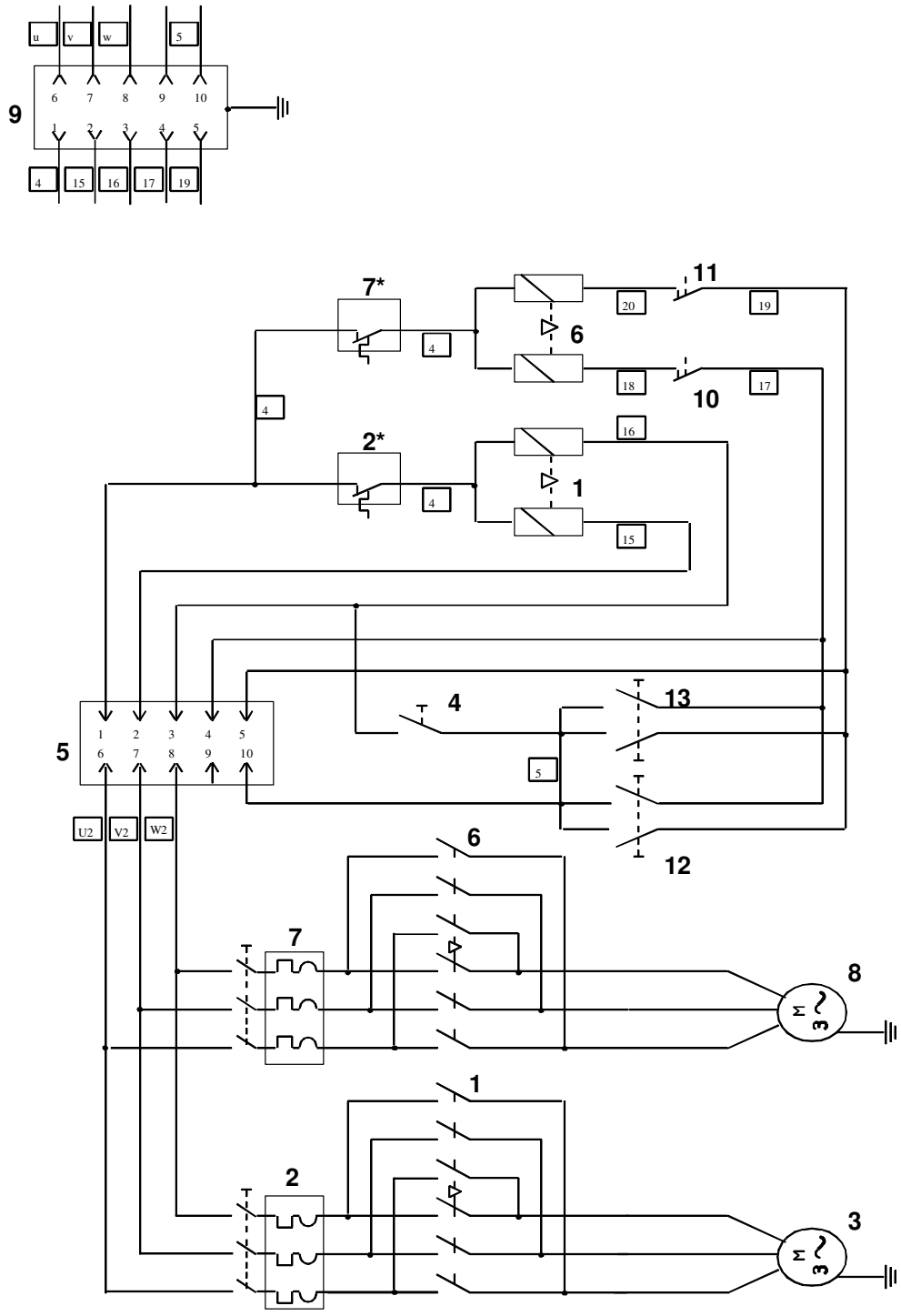
DL1) **left pushbutton led**: its lighting up indicates the functioning of the left cutting pushbutton (N.15);
DL2) **right pushbutton led**: its lighting up indicates the functioning of the right cutting pushbutton (N.15);
DL3) **left travelling head displacement led**: this led lights up when pressing the pushbutton (N. 16) for the manual translation of the travelling head to left;
DL4) **right travelling head displacement led**: this led lights up when pressing the pushbutton (N. 17) for the manual translation of the travelling head to right;
DL5) **ADJUSTMENT-AUTOMATIC switch led:** this led lights up when the selector (N.14) is on AUTOMATIC position;
DL6) **controls feeding led**: its lighting up indicates the feeding of the printed circuit card input circuits (it must light up on switching on the machine);
DL7) **integrated circuits leds**: its lighting up indicates the feeding voltage in the integrated circuits of the printed circuit card (it must light up when switching on the machine);

DL8) **right trolley displacement output led:** this led lights up when the printed circuit card feeds the remote control reverser coil (N.5) for trolley displacement to right;
DL9) **left trolley displacement output led:** this led lights up when the printed circuit card feeds the remote control reverser coil (N.5) for trolley displacement to left;
DL10) **cutting electro-valve output led:** its lighting up indicates the feeding of the electro-valve coil (N.26);
DL11) **cutting stroke-end positioning electro-valve output led**: this led has to light up when the printed circuit card feeds the cutting stroke-end positioning electro-valve coil (N. 25) with the selector (N.14) on ADJUSTMENT position;
DL12) **cutting stroke-end signal led**: this led has to light up when the striking plate reaches the stroke-end position;
DL13) **ADJUSTMENT-AUTOMATIC switch led:** this led lights up when the selector (N.14) is on ADJUSTMENT position.

5.3 AL 81-82 Wiring diagram nomenclature

No.	Code	Part description
1	02002287	Remote control reverser for material feeding in/back motor
2	02002448 02002449	1/1.6A - 380/440V thermal relay for material feeding in/back motor (optional) 1.6/2.5A - 220/240V thermal relay for material feeding in/back motor (optional)
3	02001346 02001347 02001348 02001349 02001350 02001351	220/380V 50Hz material feeding in/back motor 260/450V 50Hz material feeding in/back motor 240/420V 50Hz material feeding in/back motor 220/380V 60Hz material feeding in/back motor 250/440V 60Hz material feeding in/back motor 320/550V 60Hz material feeding in/back motor
4	02001357	Foot treadle for material feeding in
5	02001385	Feeder plug
6	02002287	Remote control reverser for rolls opening/closing motor
7	02002448 02002449	1/1.6A - 380/440V thermal relay for rolls opening/closing motor (optional) 1.6/2.5A - 220/240V thermal relay for rolls opening/closing motor (optional)
8	02001346 02001347 02001348 02001349 02001350 02001351	220/380V 50Hz rolls opening/closing motor 260/450V 50Hz rolls opening/closing motor 240/420V 50Hz rolls opening/closing motor 220/380V 60Hz rolls opening/closing motor 250/440V 60Hz rolls opening/closing motor 320/550V 60Hz rolls opening/closing motor
9	01010162	Feeder tap
10	02001341	Rolls opening stroke-end micro-interrupter
11	02001341	Rolls closing stroke-end micro-interrupter
12	02001423	Rolls opening/closing swicth
13	02001423	Rolls opening/closing swicth

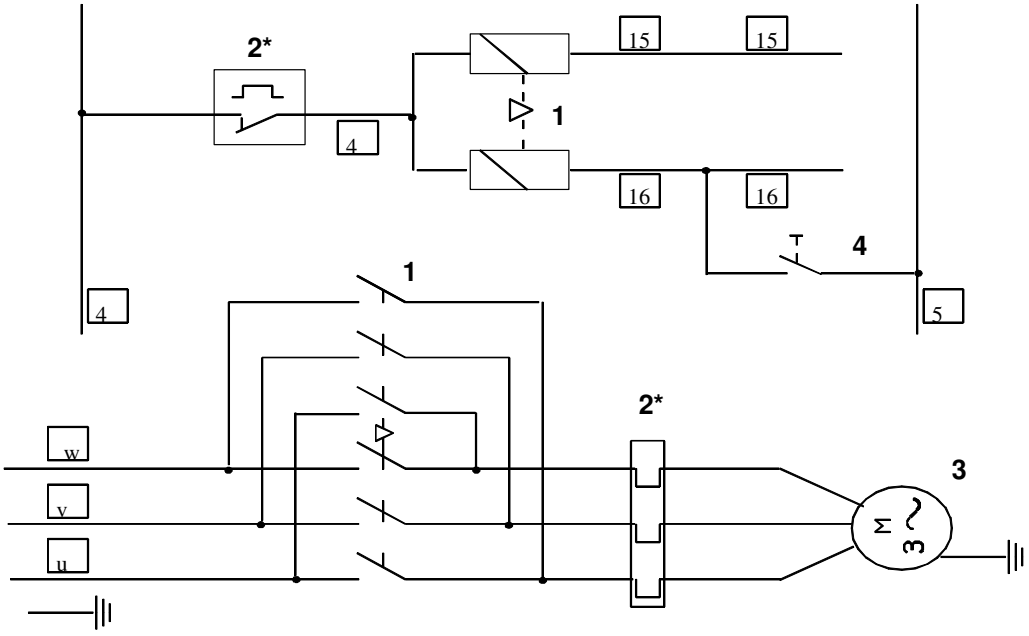
5.4 AL81-82 Wiring diagram



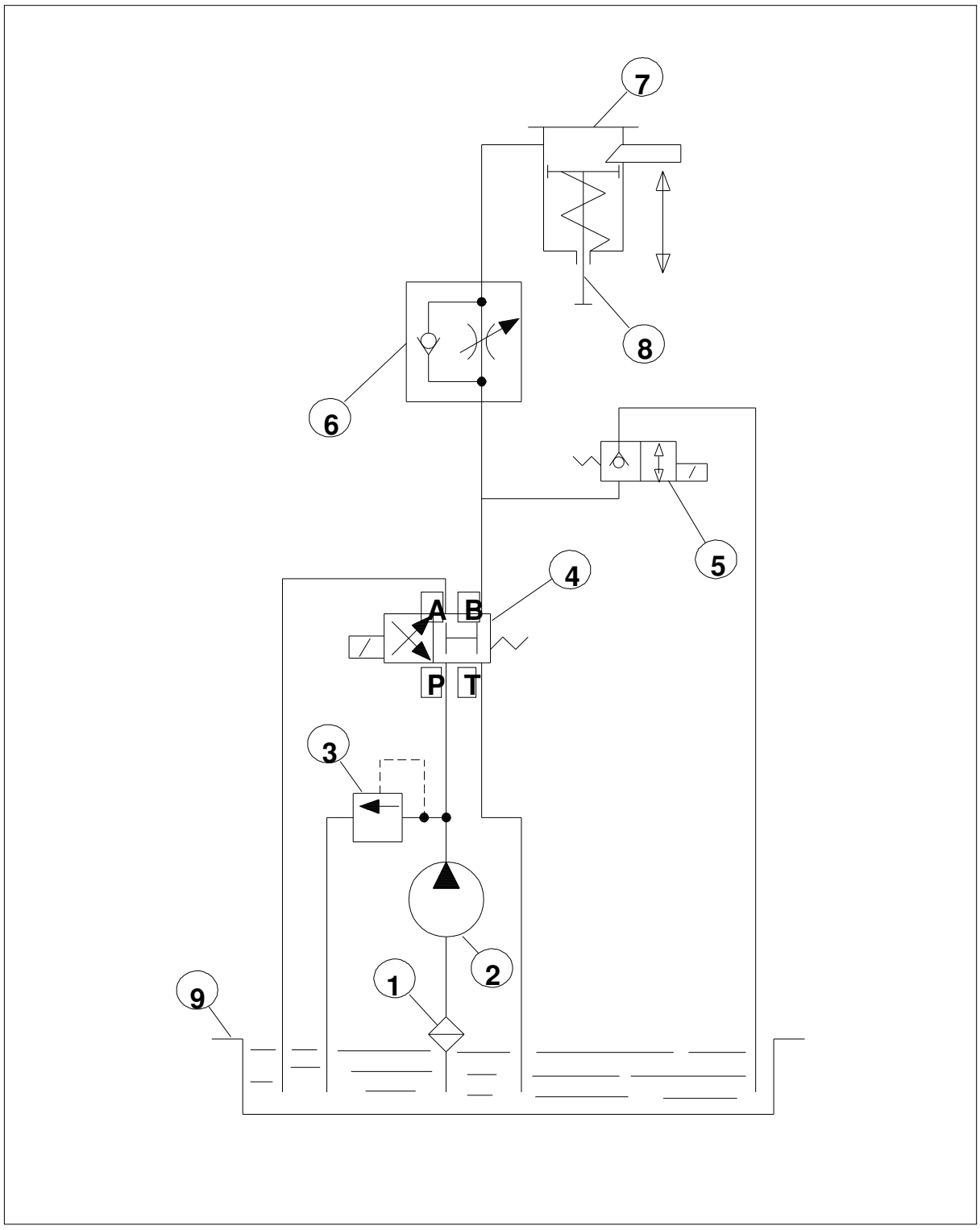
5.5 AL 85-86 Wiring diagram nomenclature

No.	Code	Part description
1	02002287	Feeder motor remote control reverser
2	02002448 02002449	1/1.6A 380/420V feeder motor thermal relay (optional) 1.6/2.5A 220/240V feeder motor thermal relay (optional)
3	02001346 02001347 02001348 02001349 02001350 02001351	220/380V 50Hz feeder motor 260/450V 50Hz feeder motor 240/420V 50Hz feeder motor 220/380V 60Hz feeder motor 250/440V 60Hz feeder motor 320/550V 60Hz feeder motor
4	02001357	Foot treadle for material feeding in

5.6 AL85-86 Wiring diagram



5.7 Oildynamic diagram



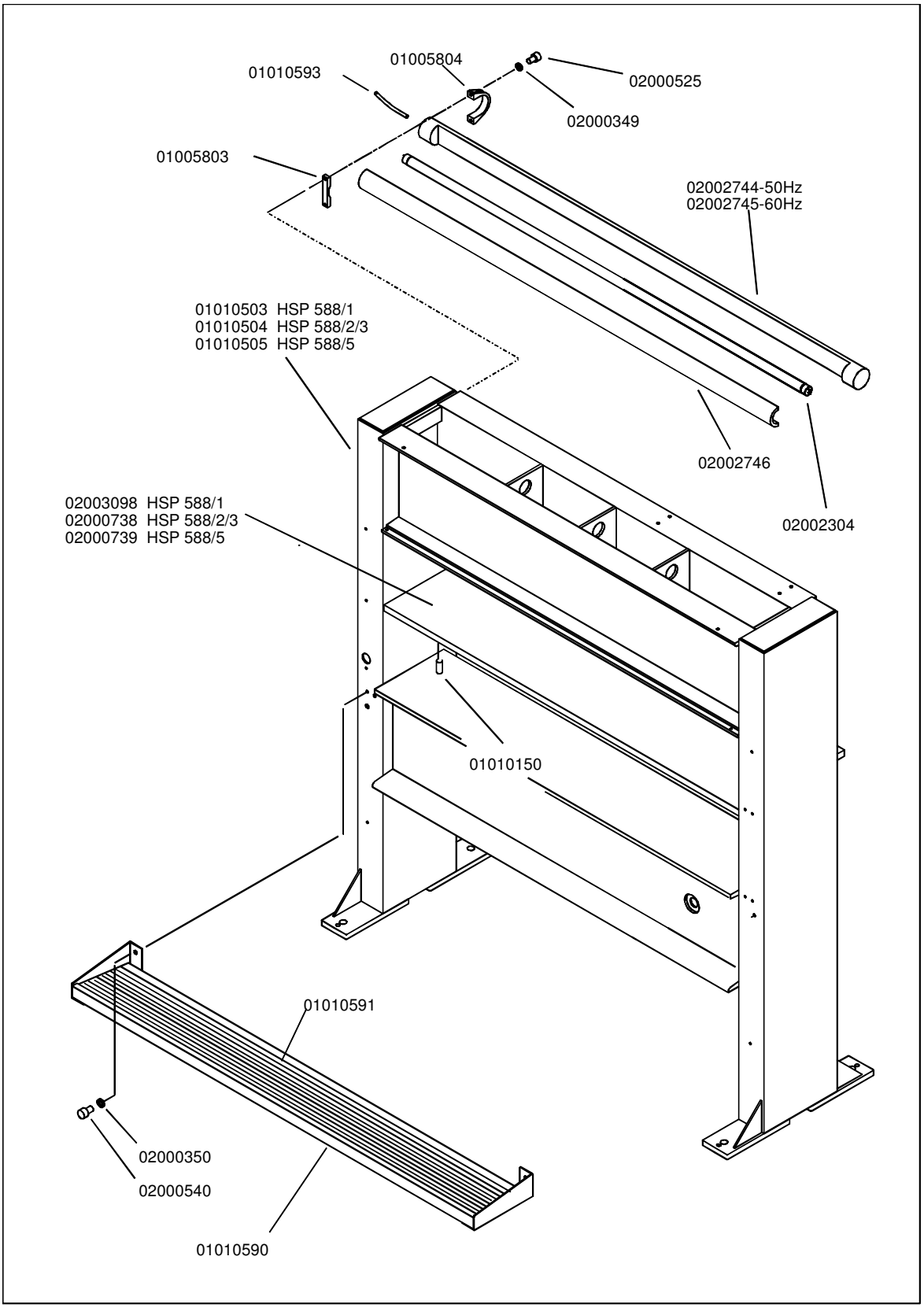
5.8 Oildynamic diagram nomenclature

No.	Code	Components description	Version
1	01003863	Suction filter	All
2	02003066 02003083	Oil-dynamic gear pump for 50Hz motor Oil-dynamic gear pump for 60Hz motor	All
3	02002831	High pressure relief valve	All
4	02003048	Cutting electro-valve	All
5	02003047	Stroke-end positioning electro-valve	All
6	02003049	One way restrictor for stroke-end adjustment	All
7	01010536 01010537 01010538	Cutting cylinder	588/1 588/2 588/3/5
8	01010545 01010546	Piston	588/1/2 588/3/5
9	01010617	Oil tank	All

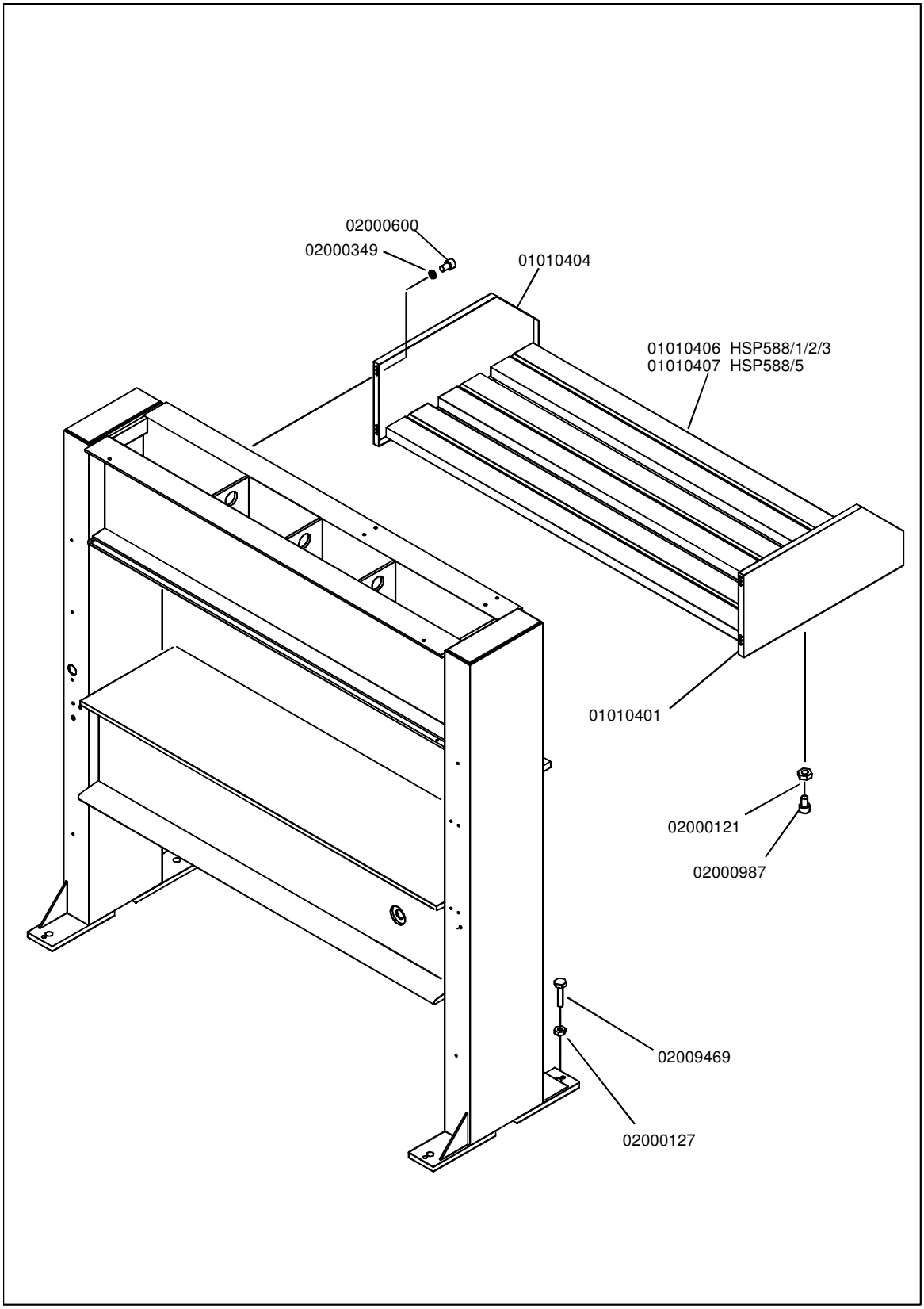
SPARE PARTS

6 Spare parts

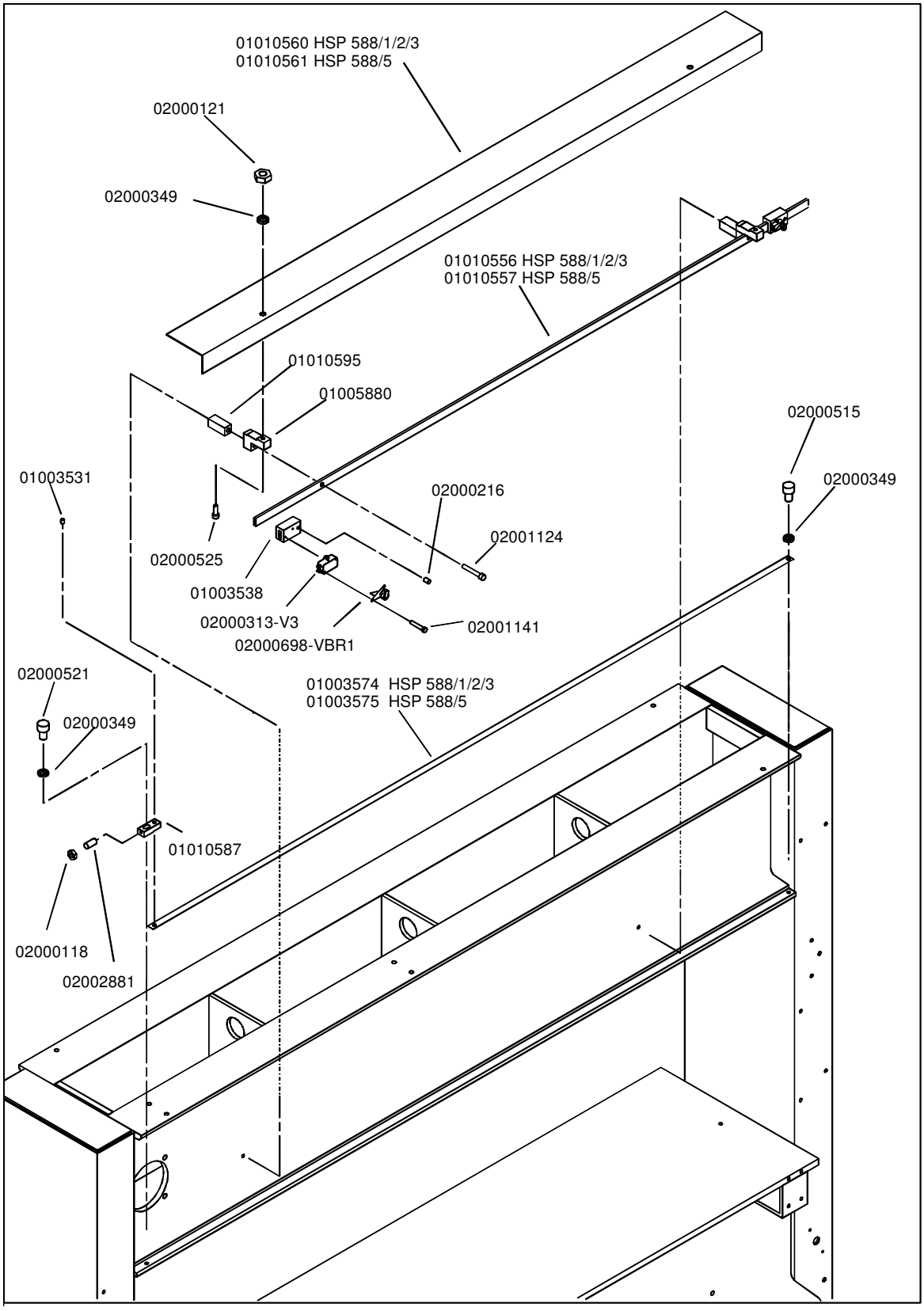
6.1 Table 1



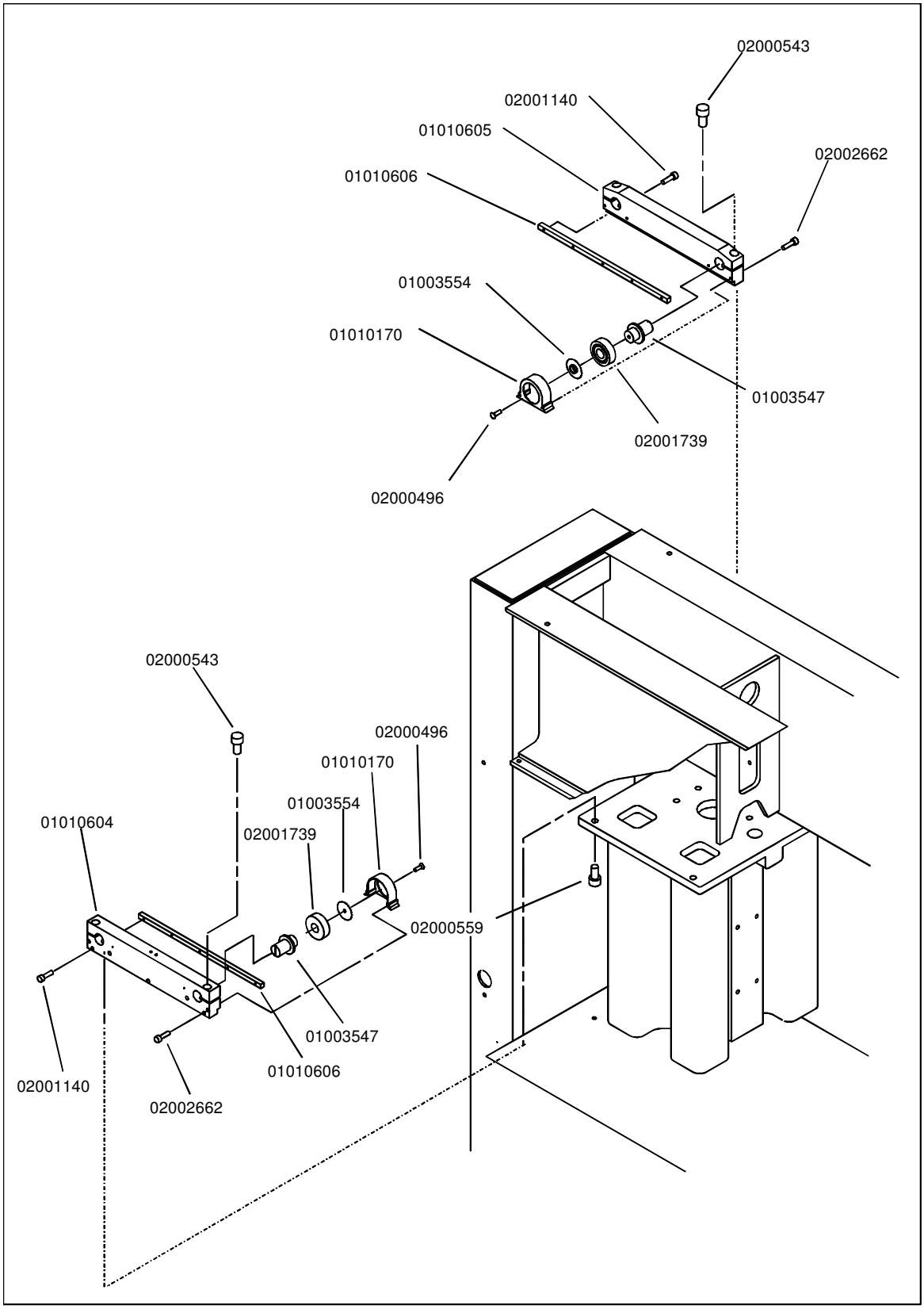
6.2 Table 2


02000600
02000349
01010404
01010406 HSP588/1/2/3
01010407 HSP588/5
01010401
02000121
02000987
02009469
02000127

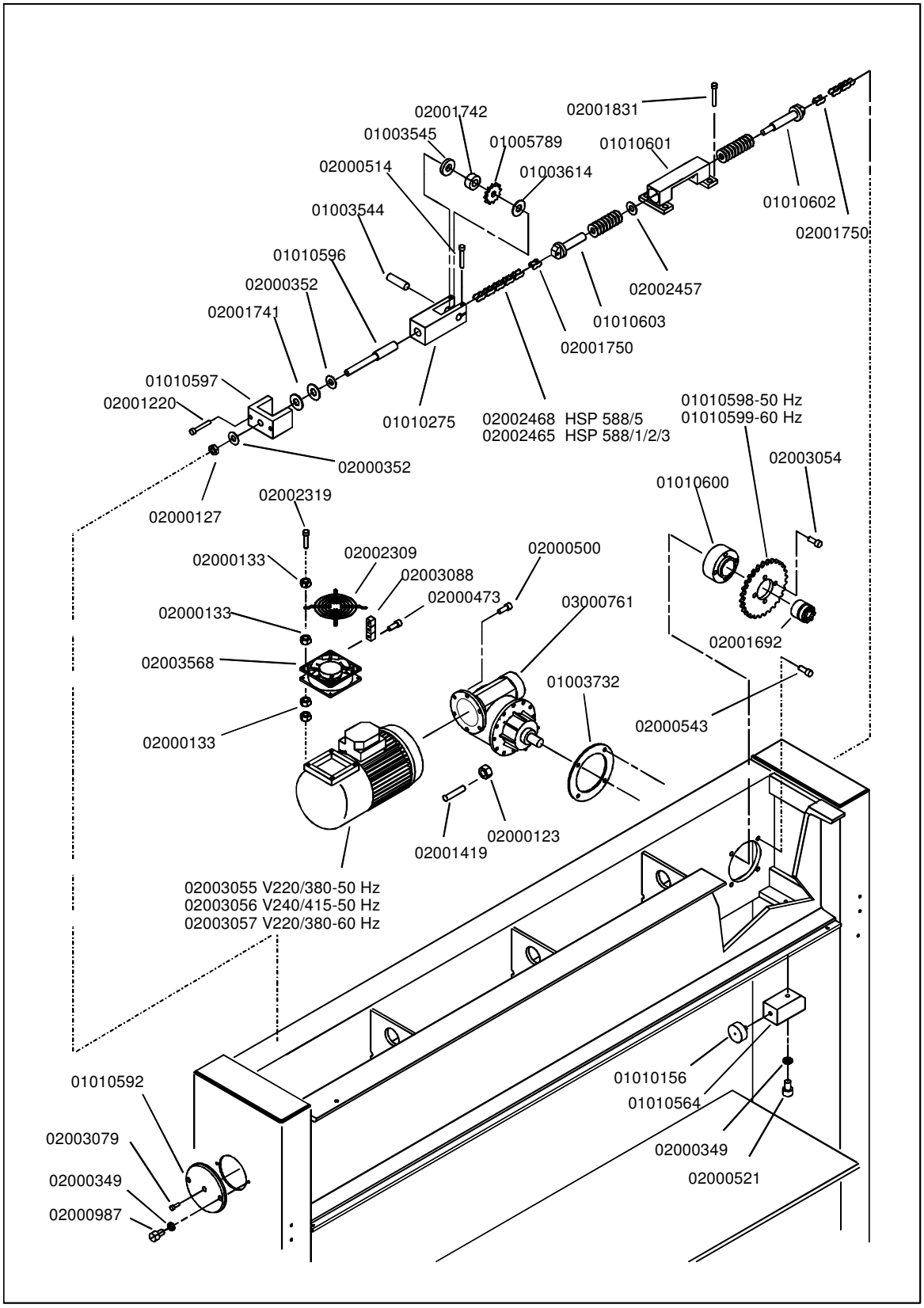
6.3 Table 3


01010560 HSP 588/1/2/3
01010561 HSP 588/5
02000121
02000349
01010556 HSP 588/1/2/3
01010557 HSP 588/5
01010595
01005880
02000515
01003531
02000349
02000216
02001124
02000525
01003538
02000313-V3
02001141
02000698-VBR1
02000521
01003574 HSP 588/1/2/3
01003575 HSP 588/5
02000349
01010587
02000118
02002881

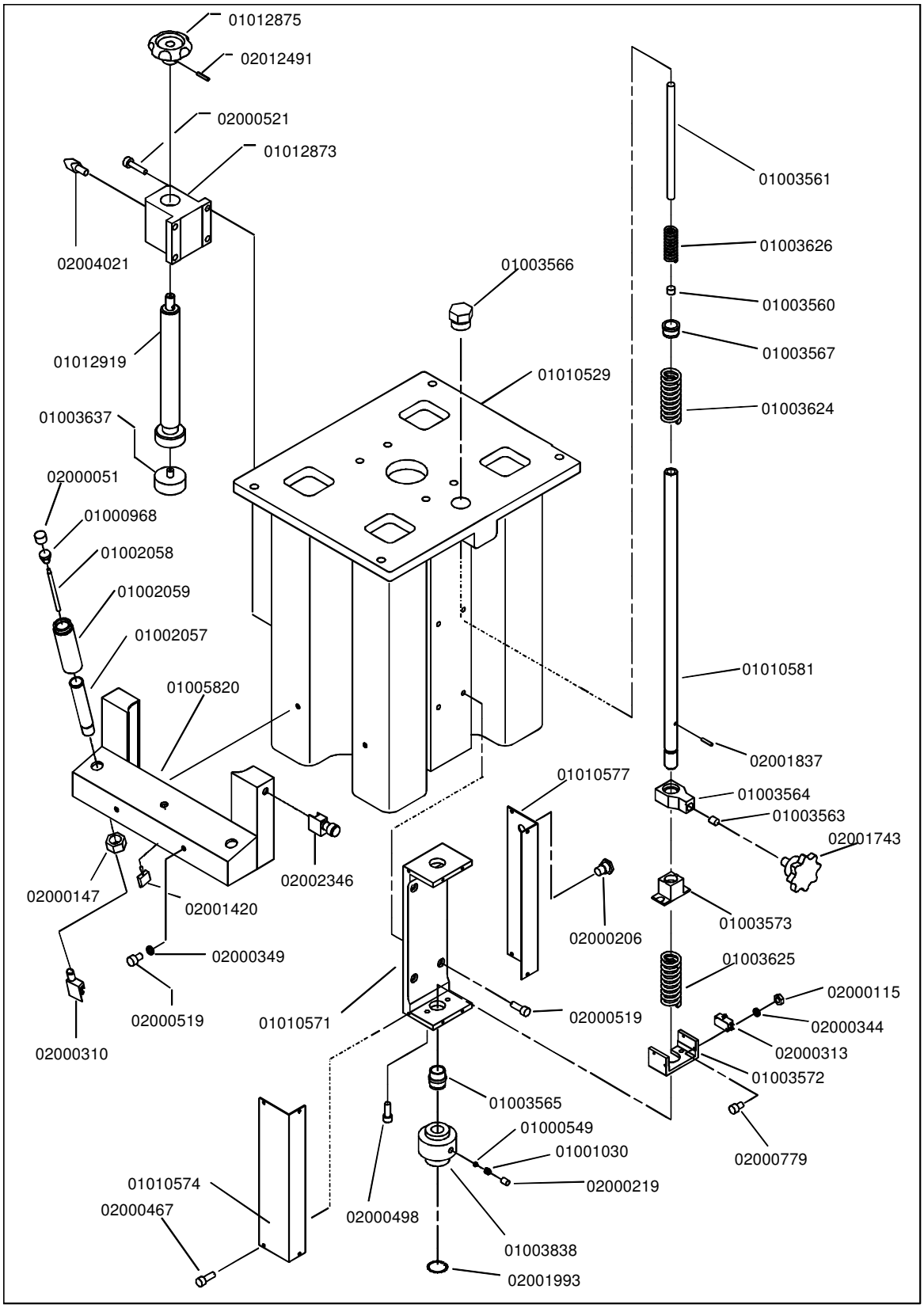
6.4 Table 4


02000543
02001140
01010605
02002662
01010606
01003554
01010170
01003547
02001739
02000496
02000543
02000496
01010170
01003554
01010604
02001739
02000559
01003547
01010606
02001140
02002662

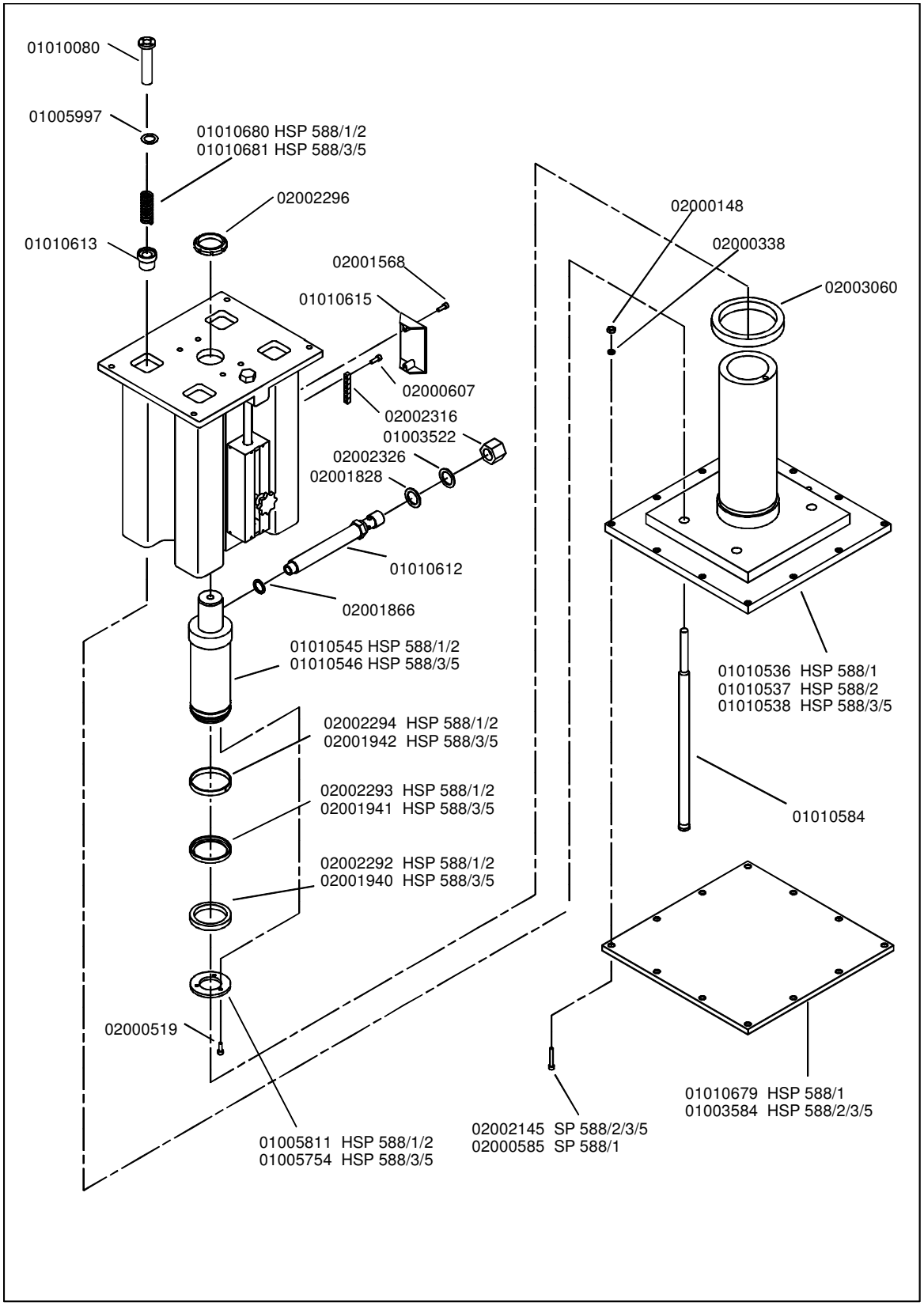
6.5 Table 5


02001742
02001831
01003545
01005789
01010601
02000514
01003614
01003544
01010602
02001750
01010596
02000352
02002457
02001741
01010603
02001750
01010597
02001220
01010275
02002468 HSP 588/5
02002465 HSP 588/1/2/3
01010598-50 Hz
01010599-60 Hz
02000352
02003054
01010600
02000127
02002319
02000133
02002309
02003088
02000500
02000473
03000761
02000133
02001692
02003568
01003732
02000133
02000543
02000123
02001419
02003055 V220/380-50 Hz
02003056 V240/415-50 Hz
02003057 V220/380-60 Hz
01010592
01010156
01010564
02003079
02000349
02000349
02000987
02000521

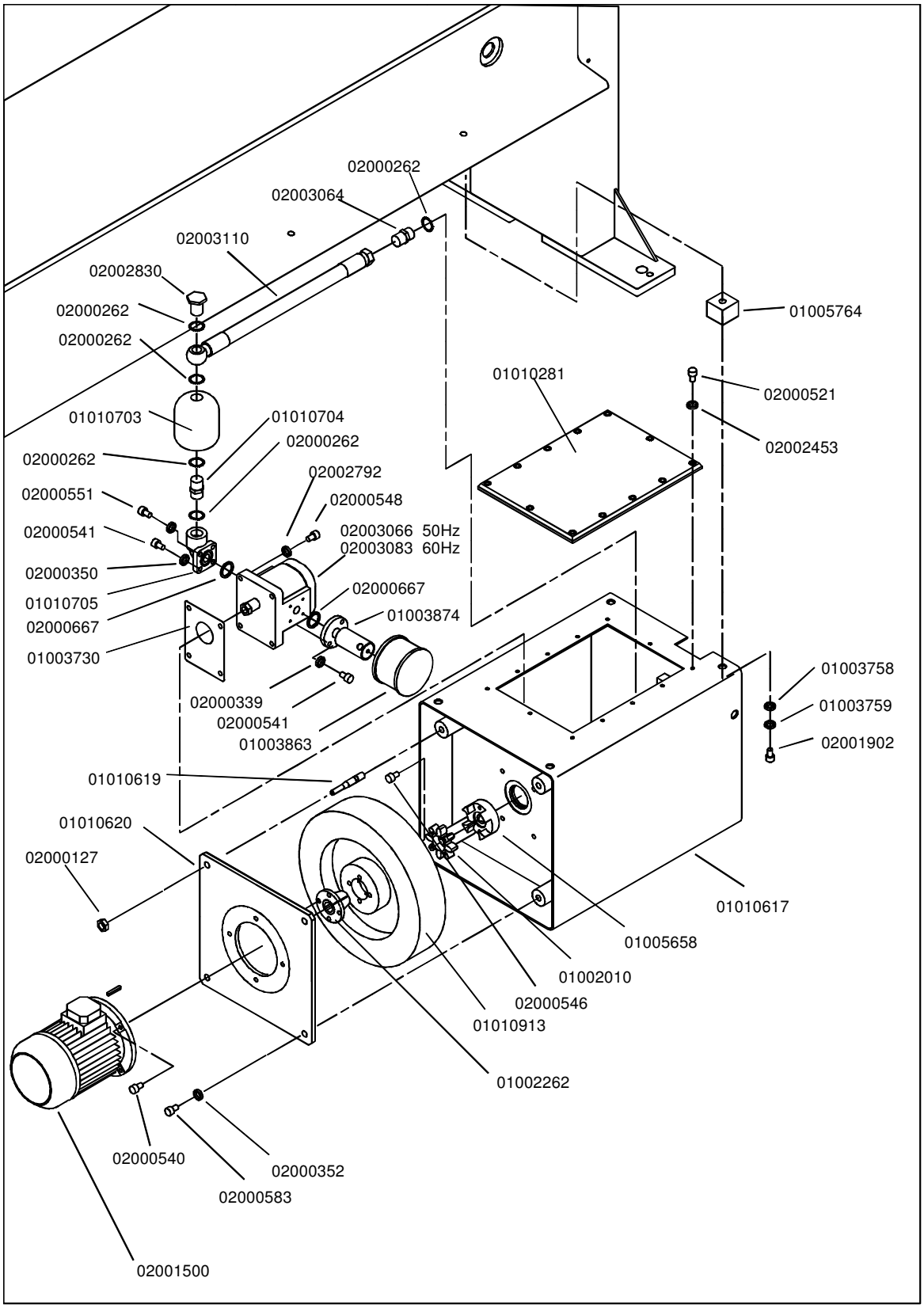
6.6 Table 6


01012875
02012491
02000521
01012873
02004021
01012919
01003637
02000051
01000968
01002058
01002059
01002057
01005820
02000147
02001420
02002346
02000349
02000519
02000310
01010571
01003566
01010529
01010577
02000206
02000519
01003565
01000549
01001030
02000219
02000498
01003838
02001993
01010574
02000467
01003561
01003626
01003560
01003567
01003624
01010581
02001837
01003564
01003563
02001743
01003573
01003625
02000115
02000344
02000313
01003572
02000779

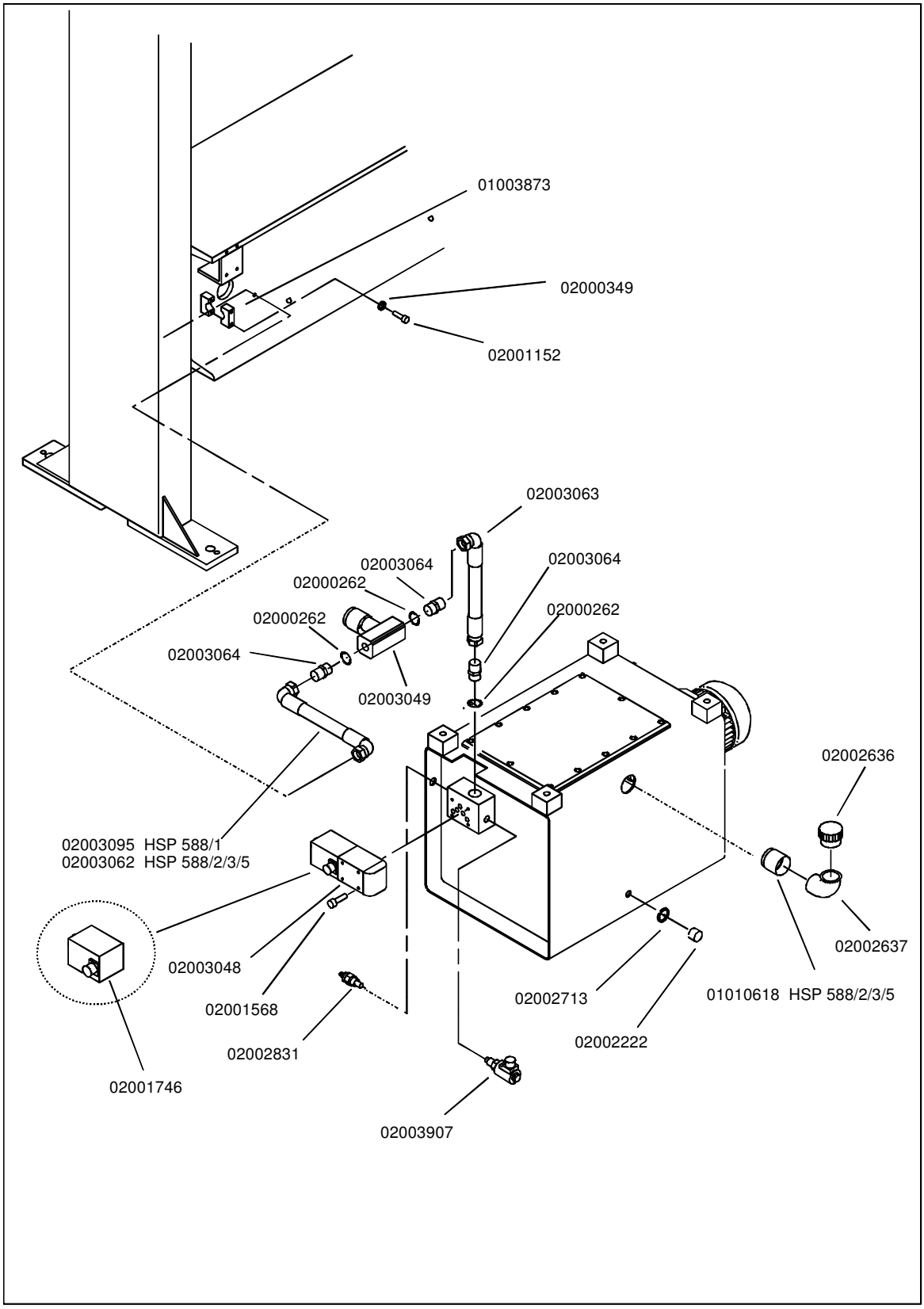
6.7 Table 7


01010080
01005997
01010680 HSP 588/1/2
01010681 HSP 588/3/5
02002296
01010613
02001568
01010615
02000607
02002316
01003522
02002326
02001828
01010612
02001866
01010545 HSP 588/1/2
01010546 HSP 588/3/5
02002294 HSP 588/1/2
02001942 HSP 588/3/5
02002293 HSP 588/1/2
02001941 HSP 588/3/5
02002292 HSP 588/1/2
02001940 HSP 588/3/5
02000519
01005811 HSP 588/1/2
01005754 HSP 588/3/5
02000148
02000338
02003060
01010536 HSP 588/1
01010537 HSP 588/2
01010538 HSP 588/3/5
01010584
01010679 HSP 588/1
01003584 HSP 588/2/3/5
02002145 SP 588/2/3/5
02000585 SP 588/1

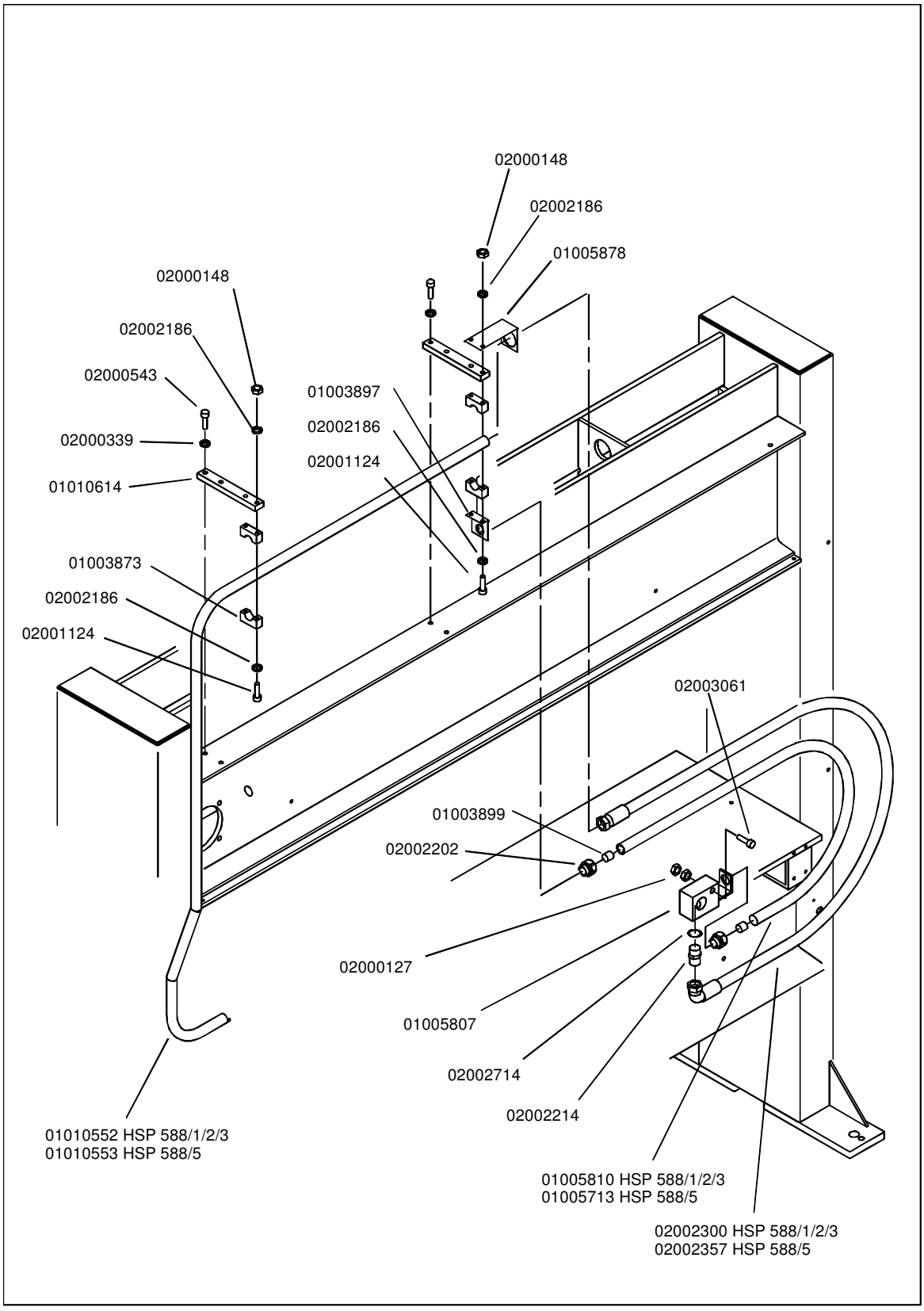
6.8 Table 8


02000262
02003064
02003110
02002830
02000262
02000262
01010703
01010704
02000262
02000262
02000551
02002792
02000548
02000541
02003066 50Hz
02003083 60Hz
02000350
02000667
01010705
01003874
02000667
01003730
02000339
02000541
01003863
01010619
01010620
02000127
01010617
01005658
01002010
02000546
01010913
01002262
02000540
02000352
02000583
02001500
01005764
01010281
02000521
02002453
01003758
01003759
02001902

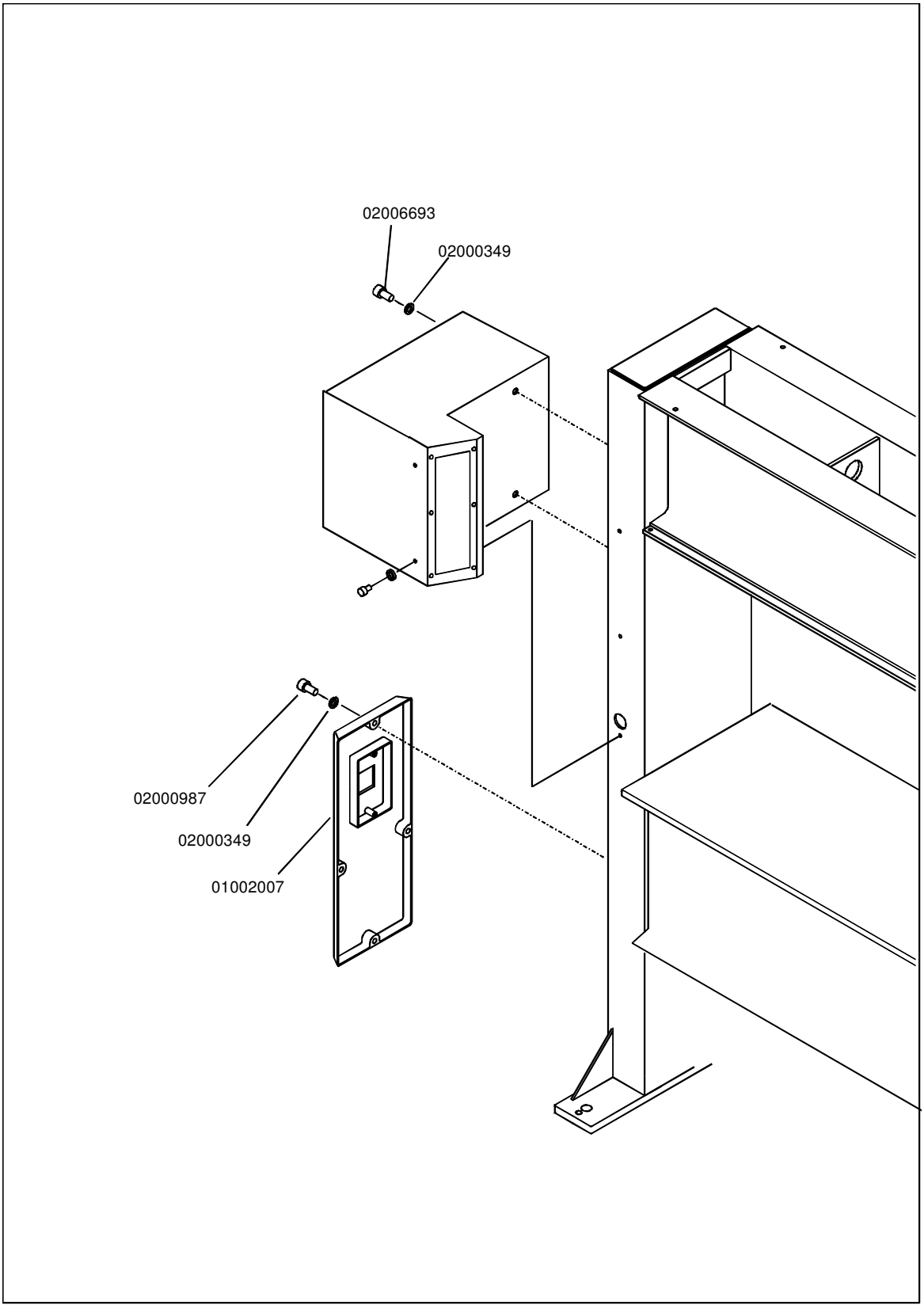
6.9 Table 9


01003873
02000349
02001152
02003063
02003064
02000262
02003064
02000262
02000262
02003064
02003049
02002636
02003095 HSP 588/1
02003062 HSP 588/2/3/5
02003048
02001568
02002831
02001746
02003907
02002713
02002222
01010618 HSP 588/2/3/5
02002637

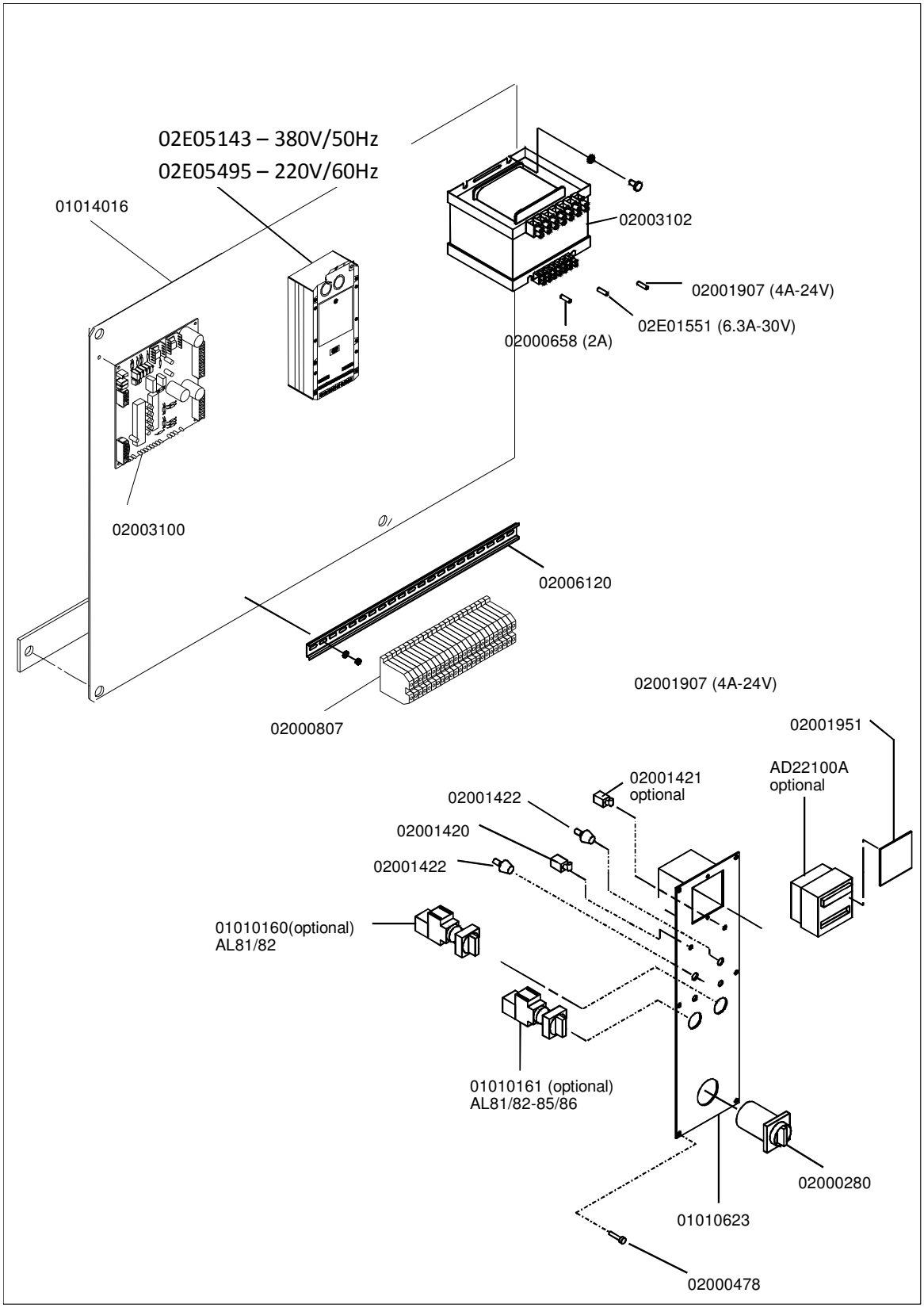
6.10 Table 10


02000148
02002186
01005878
02000148
02002186
02000543
01003897
02002186
02000339
02001124
01010614
01003873
02002186
02001124
02003061
01003899
02002202
02000127
01005807
02002714
02002214
01010552 HSP 588/1/2/3
01010553 HSP 588/5
01005810 HSP 588/1/2/3
01005713 HSP 588/5
02002300 HSP 588/1/2/3
02002357 HSP 588/5

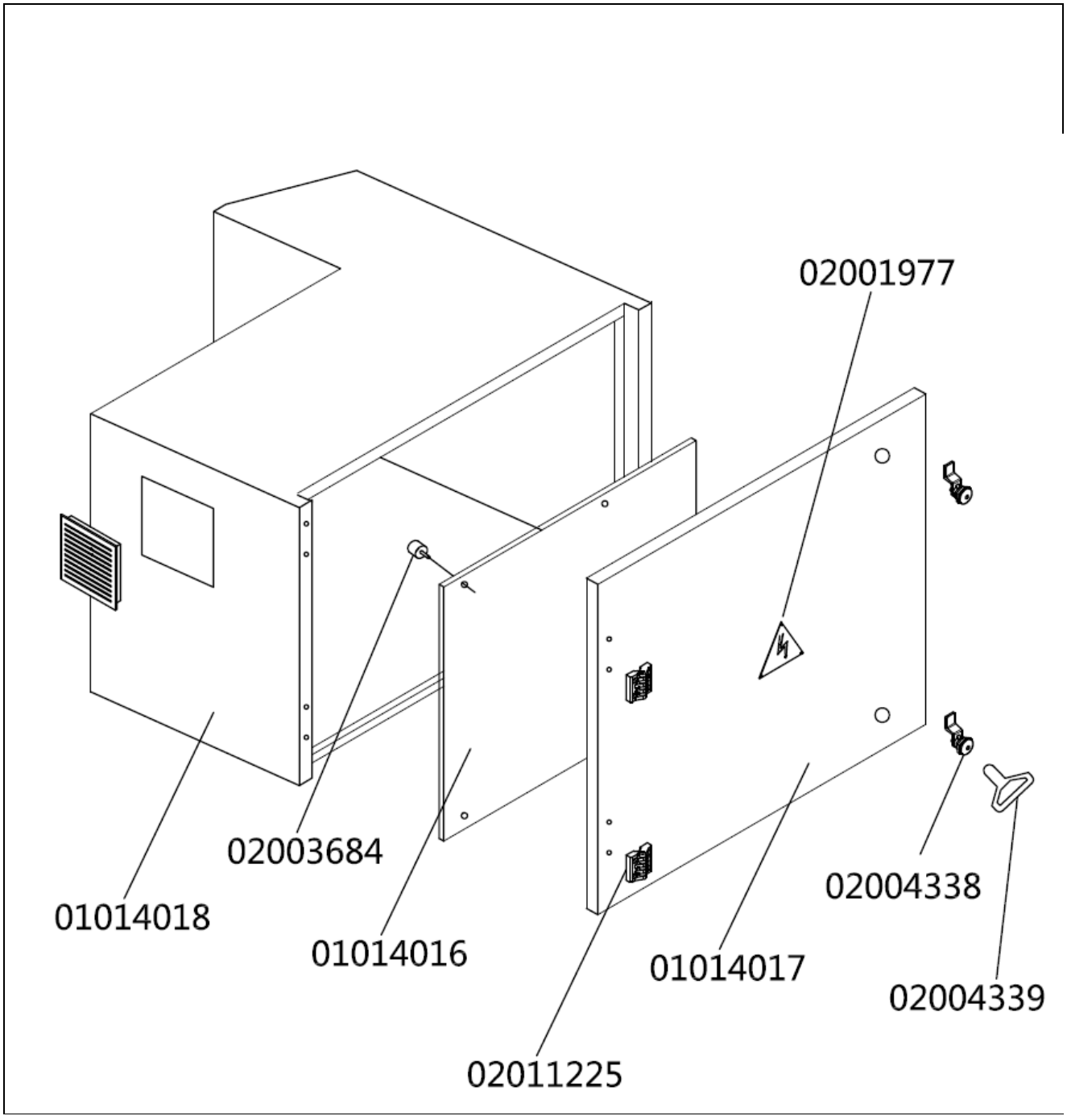
6.11 Table 11



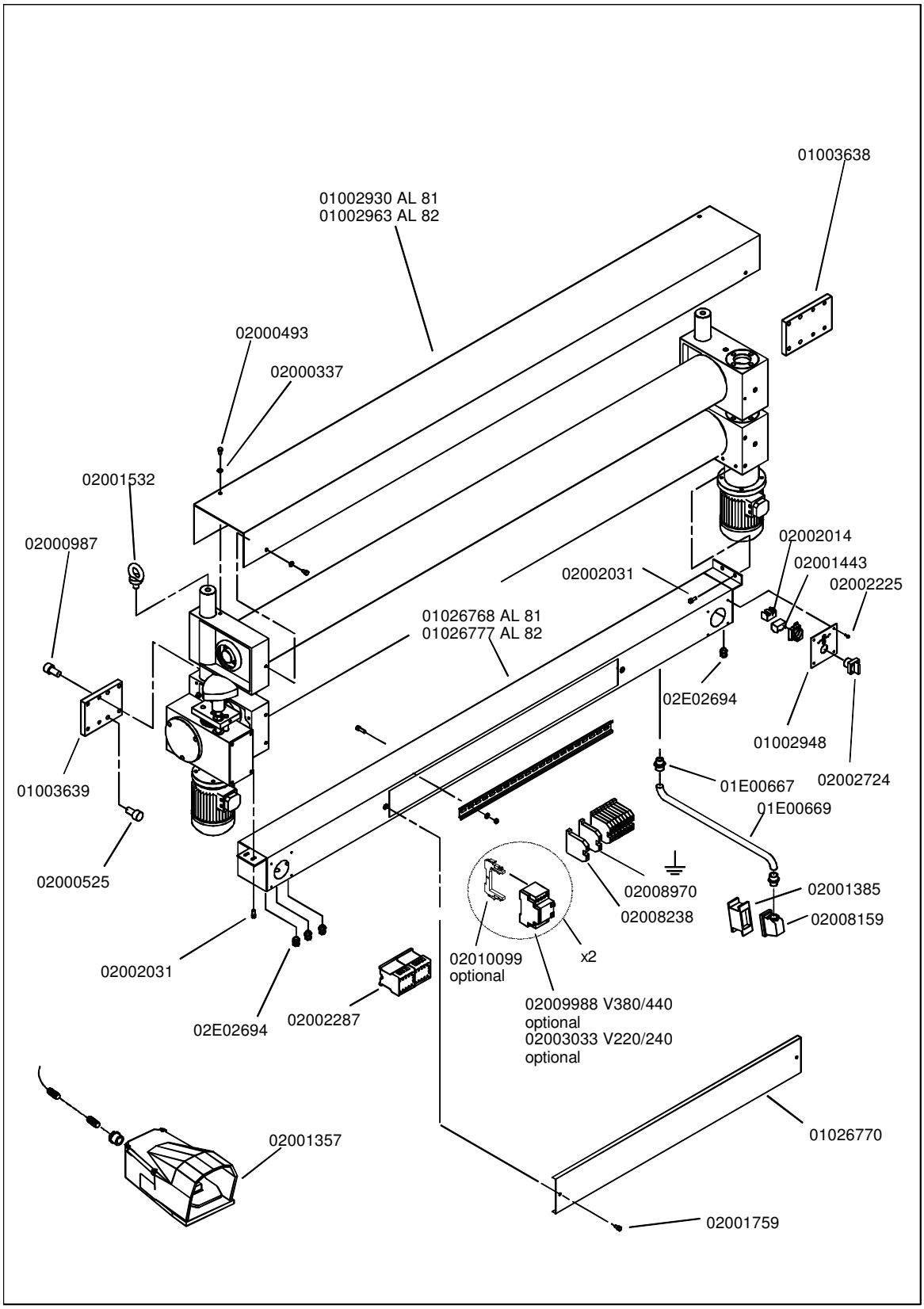
6.12 Table 12


02E05143 – 380V/50Hz
02E05495 – 220V/60Hz
01014016
02003102
02001907 (4A-24V)
02E01551 (6.3A-30V)
02000658 (2A)
02003100
02006120
02000807
02001907 (4A-24V)
02001951
AD22100A
optional
02001421
optional
02001422
02001420
02001422
01010160(optional)
AL81/82
01010161 (optional)
AL81/82-85/86
02000280
01010623
02000478

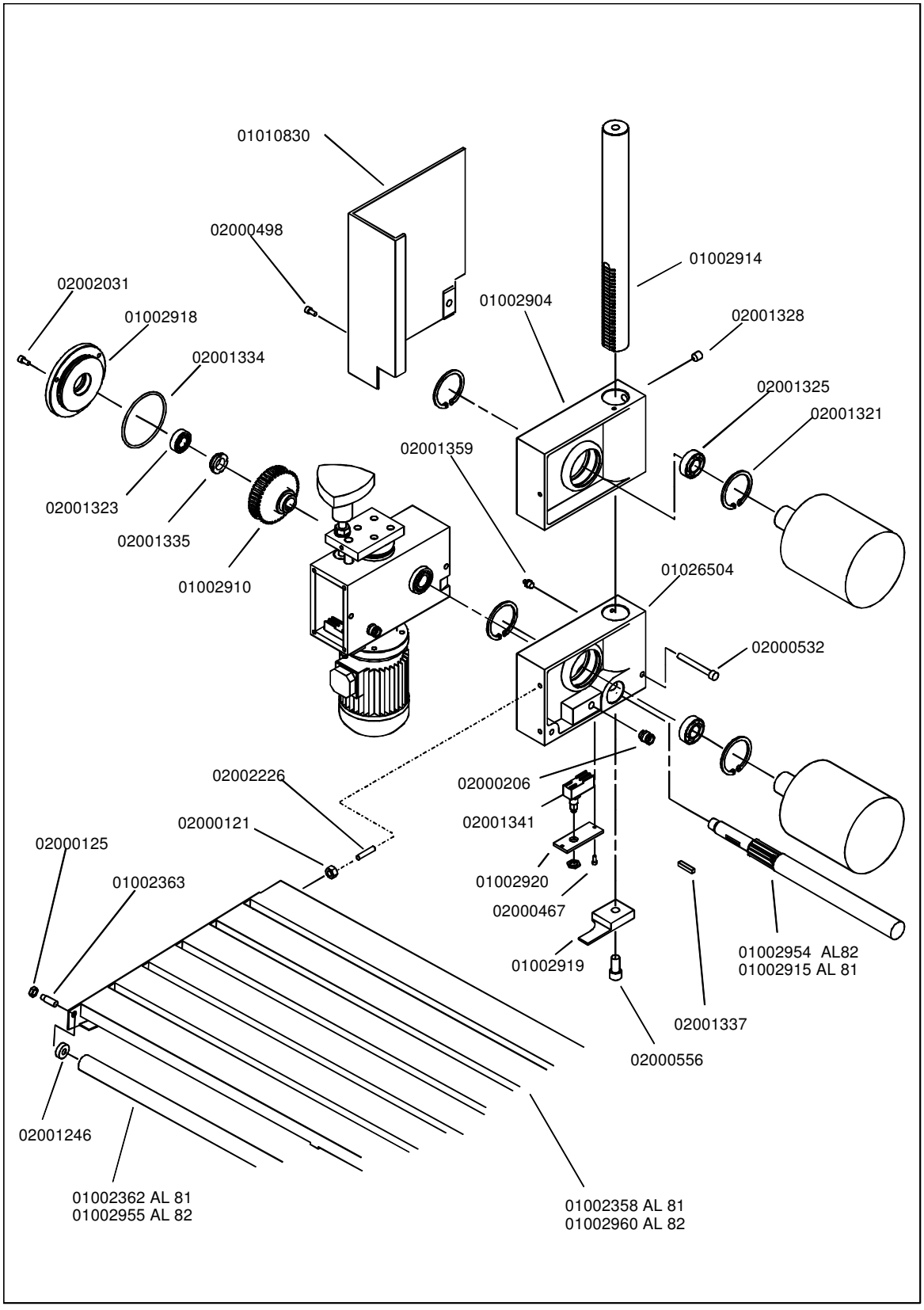
6.13 Table 13


02001977
02003684
01014018
01014016
01014017
02004338
02004339
02011225

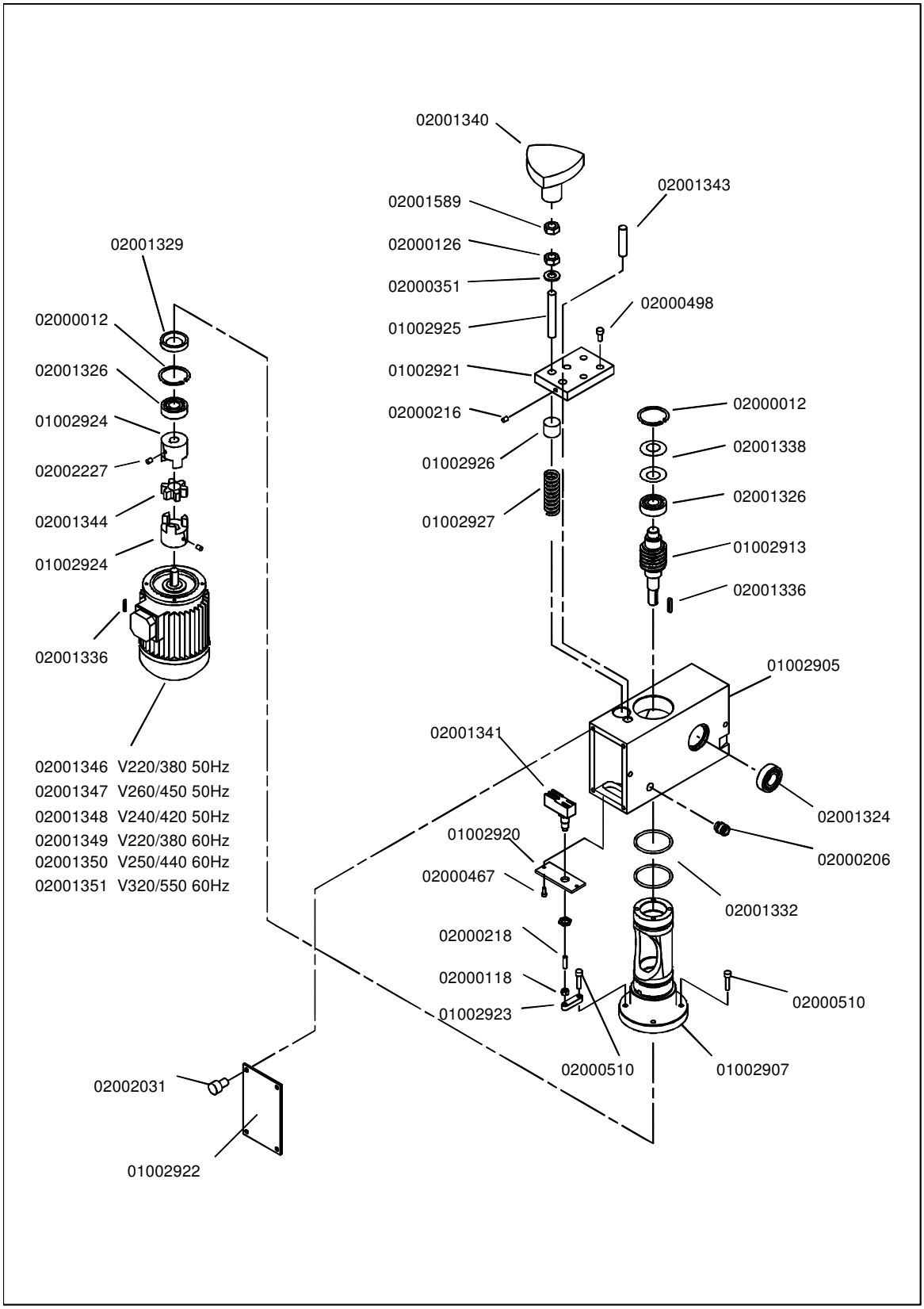
6.14 Table 14


01003638
01002930 AL 81
01002963 AL 82
02000493
02000337
02001532
02000987
02002014
02001443
02002225
02002031
01026768 AL 81
01026777 AL 82
02E02694
01002948
02002724
01E00667
01E00669
01003639
02000525
02008970
02008238
02001385
02008159
02002031
02010099
optional
x2
02E02694
02002287
02009988 V380/440
optional
02003033 V220/240
optional
02001357
01026770
02001759

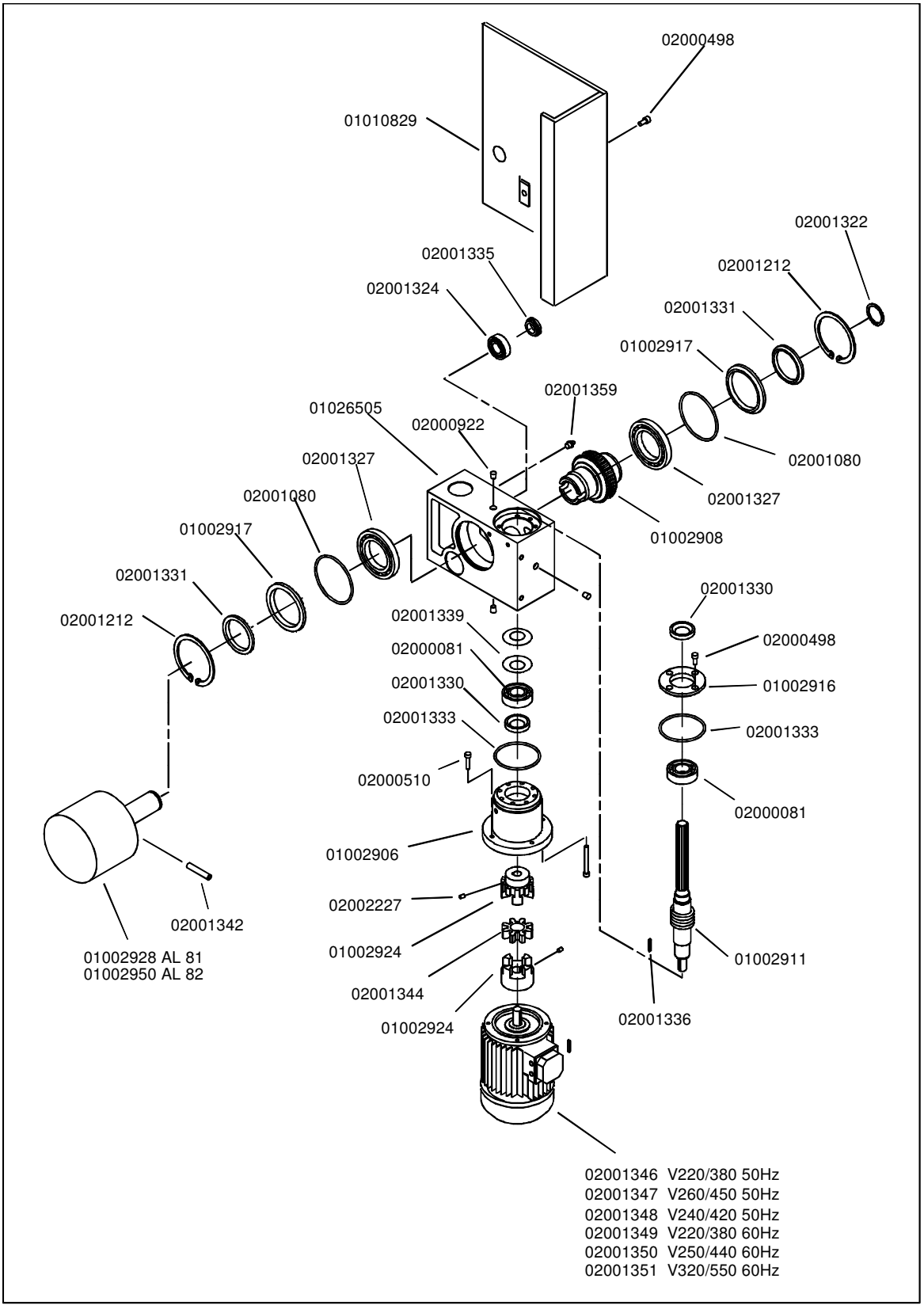
6.15 Table 15


01010830
02000498
02002031
01002918
02001334
02001323
02001335
01002910
01002914
01002904
02001328
02001325
02001321
02001359
01026504
02000532
02002226
02000206
02001341
02000121
02000125
01002363
01002920
02000467
01002919
01002954 AL82
01002915 AL 81
02001337
02000556
02001246
01002362 AL 81
01002955 AL 82
01002358 AL 81
01002960 AL 82

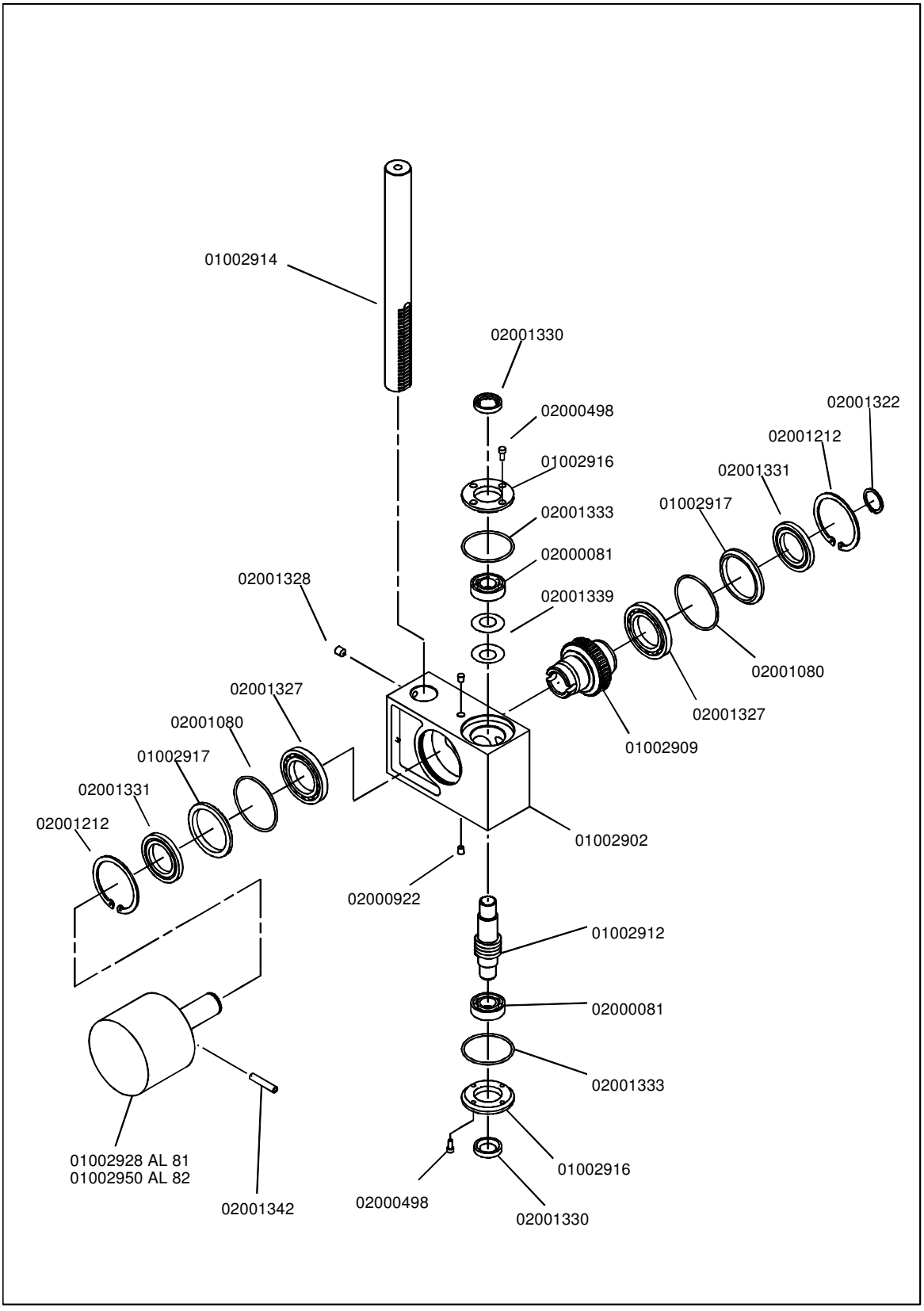
6.16 Table 16


02001340
02001343
02001589
02000126
02000351
02000498
01002925
01002921
02000216
01002926
01002927
02001329
02000012
02001326
01002924
02002227
02001344
01002924
02001336
02001346 V220/380 50Hz
02001347 V260/450 50Hz
02001348 V240/420 50Hz
02001349 V220/380 60Hz
02001350 V250/440 60Hz
02001351 V320/550 60Hz
02000012
02001338
02001326
01002913
02001336
01002905
02001341
02001324
02000206
01002920
02000467
02001332
02000218
02000118
01002923
02000510
02000510
01002907
02002031
01002922

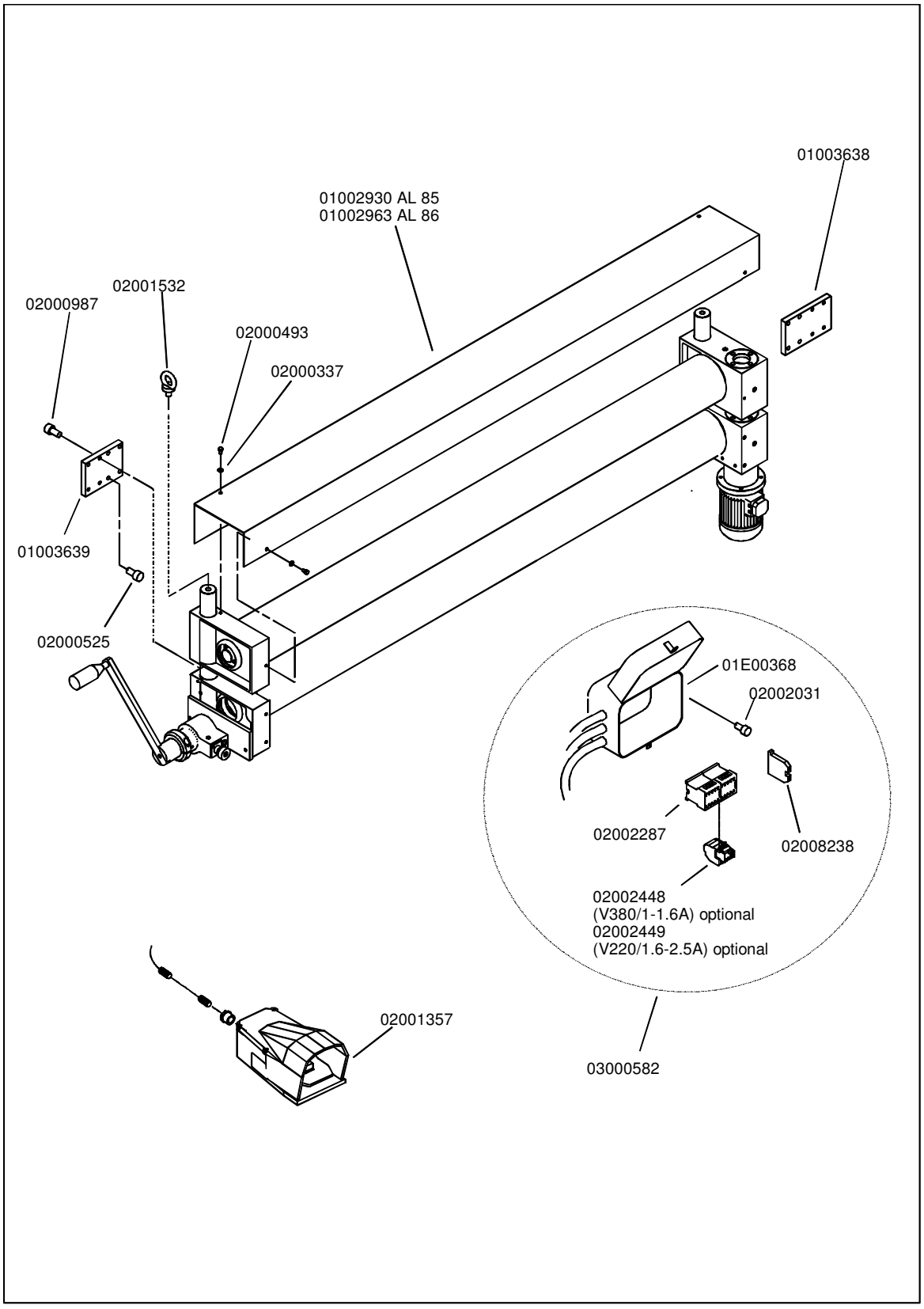
6.17 Table 17


02000498
01010829
02001322
02001335
02001212
02001324
02001331
01002917
02001359
01026505
02000922
02001080
02001327
02001327
02001080
01002908
01002917
02001331
02001212
02001330
02001339
02000498
02000081
01002916
02001330
02001333
02001333
02000510
02000081
01002906
02002227
01002924
01002911
02001344
01002924
02001336
02001342
01002928 AL 81
01002950 AL 82
02001346 V220/380 50Hz
02001347 V260/450 50Hz
02001348 V240/420 50Hz
02001349 V220/380 60Hz
02001350 V250/440 60Hz
02001351 V320/550 60Hz

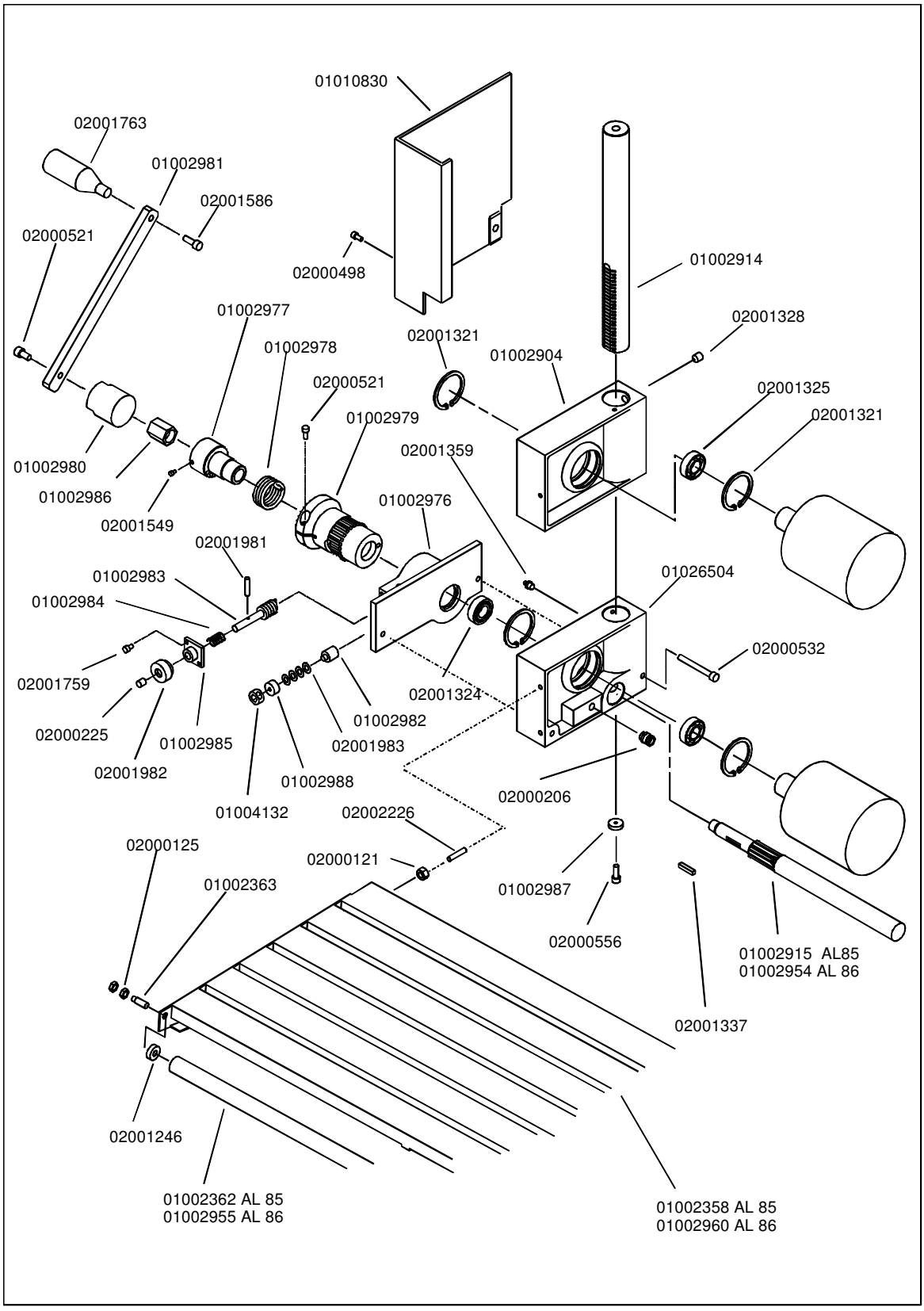
6.18 Table 18


01002914
02001330
02000498
01002916
02001333
02000081
02001328
02001339
02001327
02001080
01002917
02001331
02001212
02001322
02001080
02001327
01002909
02001327
02001080
01002917
02001331
02001212
01002902
02000922
01002912
02000081
02001333
01002916
02000498
02001330
01002928 AL 81
01002950 AL 82
02001342

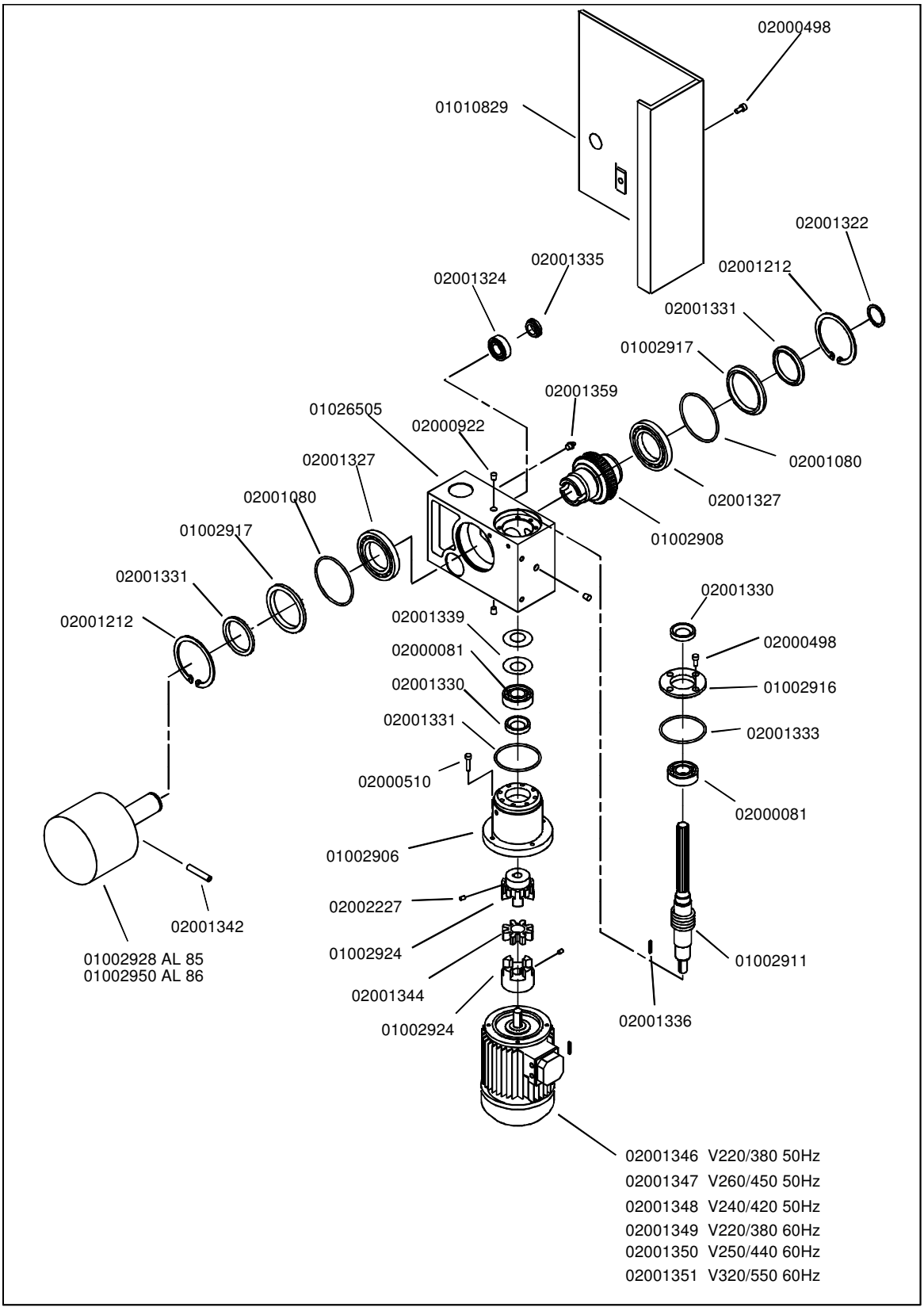
6.19 Table 19


01003638
01002930 AL 85
01002963 AL 86
02001532
02000987
02000493
02000337
01003639
02000525
01E00368
02002031
02002287
02008238
02002448
(V380/1-1.6A) optional
02002449
(V220/1.6-2.5A) optional
02001357
03000582

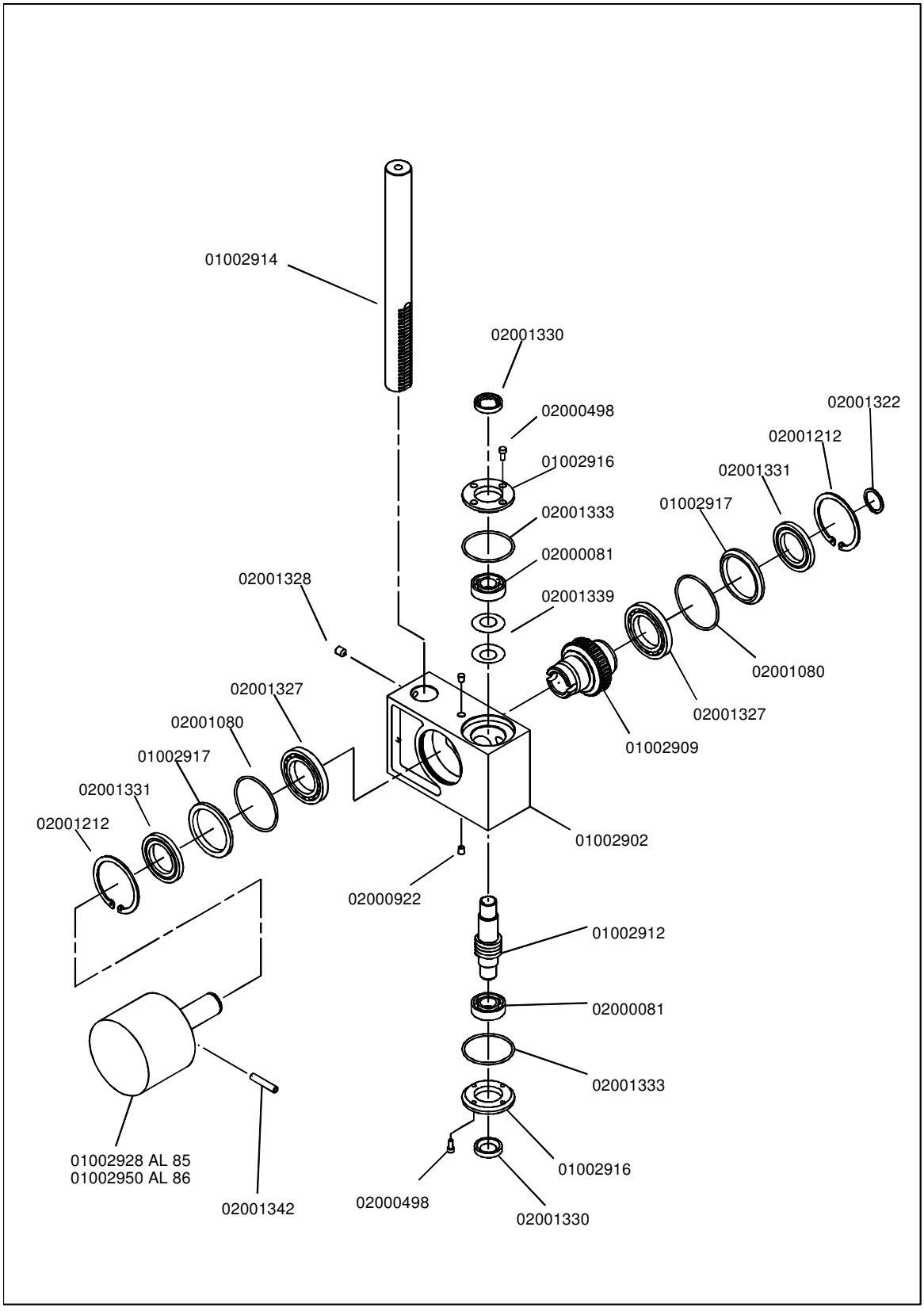
6.20 Table 20


01010830
02001763
01002981
02001586
02000521
02000498
01002914
01002977
01002978
02001321
01002904
02001328
02000521
02001325
02001321
01002979
01002980
02001359
01002986
02001549
01002976
02001981
01026504
01002983
01002984
02000532
02001759
02001324
02000225
01002985
01002982
02001983
02001982
01002988
02000206
01004132
02002226
02000125
02000121
01002987
01002363
02000556
01002915 AL85
01002954 AL 86
02001337
02001246
01002362 AL 85
01002955 AL 86
01002358 AL 85
01002960 AL 86

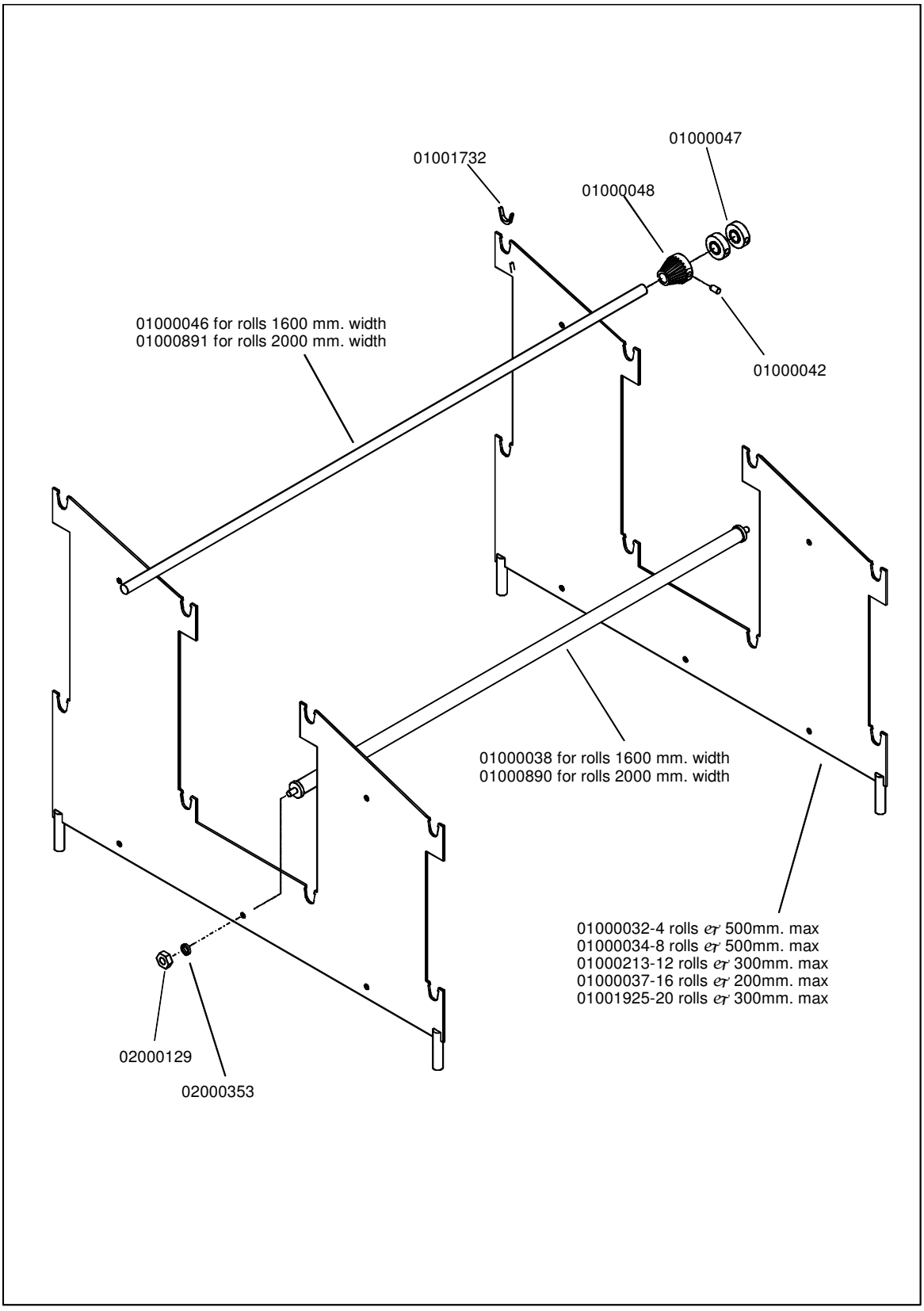
6.21 Table 21

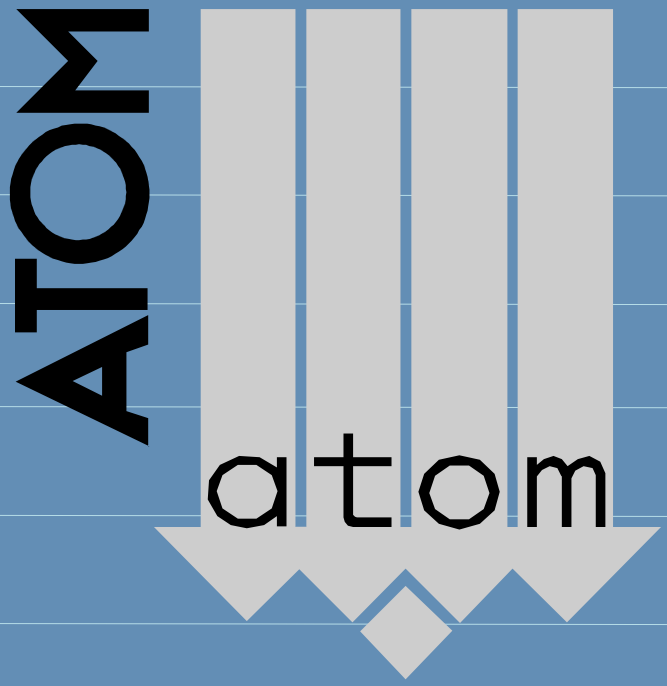

02000498
01010829
02001322
02001335
02001324
02001212
02001331
01002917
02001359
01026505
02000922
02001080
02001327
02001327
02001080
01002908
01002917
02001331
02001212
02001330
02001339
02000498
02000081
01002916
02001330
02001333
02001331
02000510
02000081
01002906
02002227
02001342
01002924
01002928 AL 85
01002950 AL 86
01002911
02001344
02001336
01002924
02001346 V220/380 50Hz
02001347 V260/450 50Hz
02001348 V240/420 50Hz
02001349 V220/380 60Hz
02001350 V250/440 60Hz
02001351 V320/550 60Hz

6.22 Table 22


01002914
02001330
02000498
01002916
02001333
02000081
02001339
02001328
02001327
02001080
01002917
02001331
02001212
02001322
01002909
01002902
02000922
01002912
02000081
02001333
01002916
02000498
02001330
01002928 AL 85
01002950 AL 86
02001342

6.23 Table 23


01001732
01000047
01000048
01000046 for rolls 1600 mm. width
01000891 for rolls 2000 mm. width
01000042
01000038 for rolls 1600 mm. width
01000890 for rolls 2000 mm. width
01000032-4 rolls er 500mm. max
01000034-8 rolls er 500mm. max
01000213-12 rolls er 300mm. max
01000037-16 rolls er 200mm. max
01001925-20 rolls er 300mm. max
02000129
02000353


ATOM
atom


atom
ATOM