

# DISHWASHER

ELECTROMECHANICAL SWITCHES  
LOWER AND UPPER WASHING

TYPE: 291P

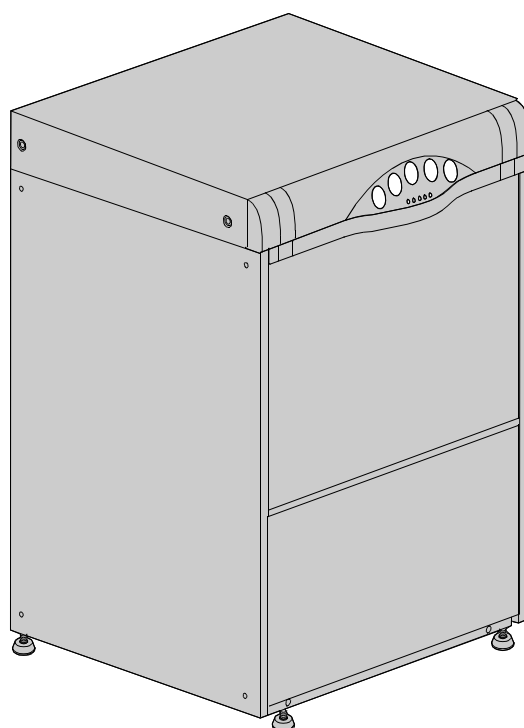
Accessories  
BREAK TANK  
BOOSTER PUMP

DVGW  
DETERGENT DISPENSER  
DRAIN PUMP

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## Spare parts manual

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## **1. Spare parts**

|                                                |           |
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| <b>General body parts.....</b>                 | <b>7</b>  |
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## 1.1 Voltage codes

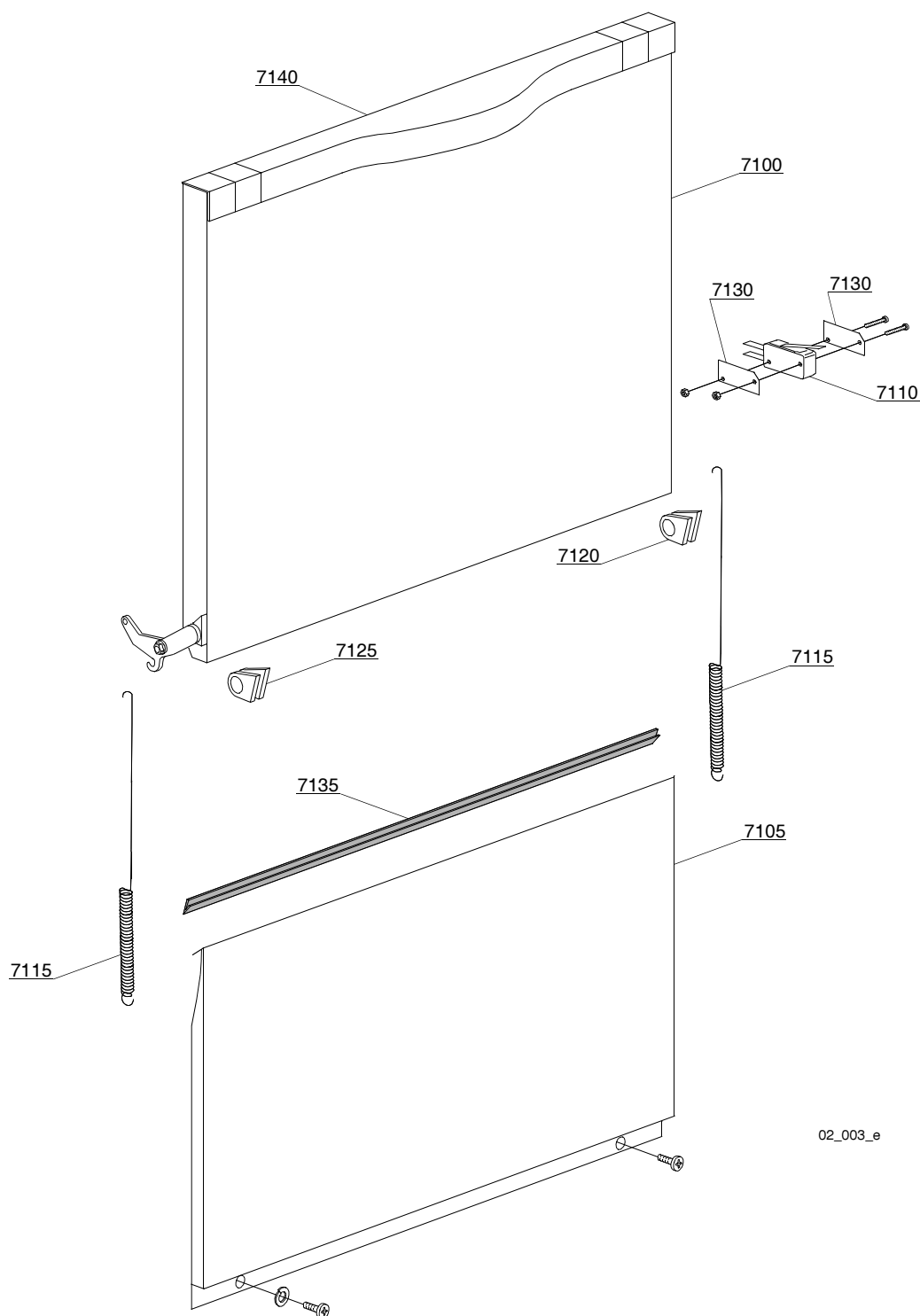
| Voltage code | Voltage              |
|--------------|----------------------|
| A            | 3/N/PE~400/230V 50Hz |
| B            | ~250V 16A 50Hz       |
| C            | 3/N/PE~380/220V 50Hz |
| D            | 3/PE~200V 50-60Hz    |
| F            | 2/PE 220-240V 50Hz   |
| G            | 3/N/PE~415/240V 50Hz |
| H            | 3/PE~230V 50Hz       |
| I            | 3/PE~220V 60Hz       |
| J            | 3/PE~380 50Hz        |
| K            | 3/PE~400V 50Hz       |
| L            | 3/PE~415V 50Hz       |
| M            | 3/PE~440V 60Hz       |
| N            | 3/PE~460V 60Hz       |
| O            | 3/PE~480V 60Hz       |
| P            | 1/N/PE~220-240V 50Hz |
| R            | 2/PE~220-230V 60Hz   |
| S            | 3/N/PE~400/230V 50Hz |
| T            | 3/PE~230V 60Hz       |

## 1.2 Product codes

| Product code    | Full name                  |
|-----------------|----------------------------|
| Model codes     |                            |
| em              | ELECTROMECHANICAL SWITCHES |
| ls              | LOWER AND UPPER WASHING    |
| Type codes      |                            |
| 291P            | 291P                       |
| Accessory codes |                            |
| bt              | BREAK TANK                 |
| pap             | BOOSTER PUMP               |
| dvgw            | DVGW                       |
| dde             | DETERGENT DISPENSER        |
| ps              | DRAIN PUMP                 |

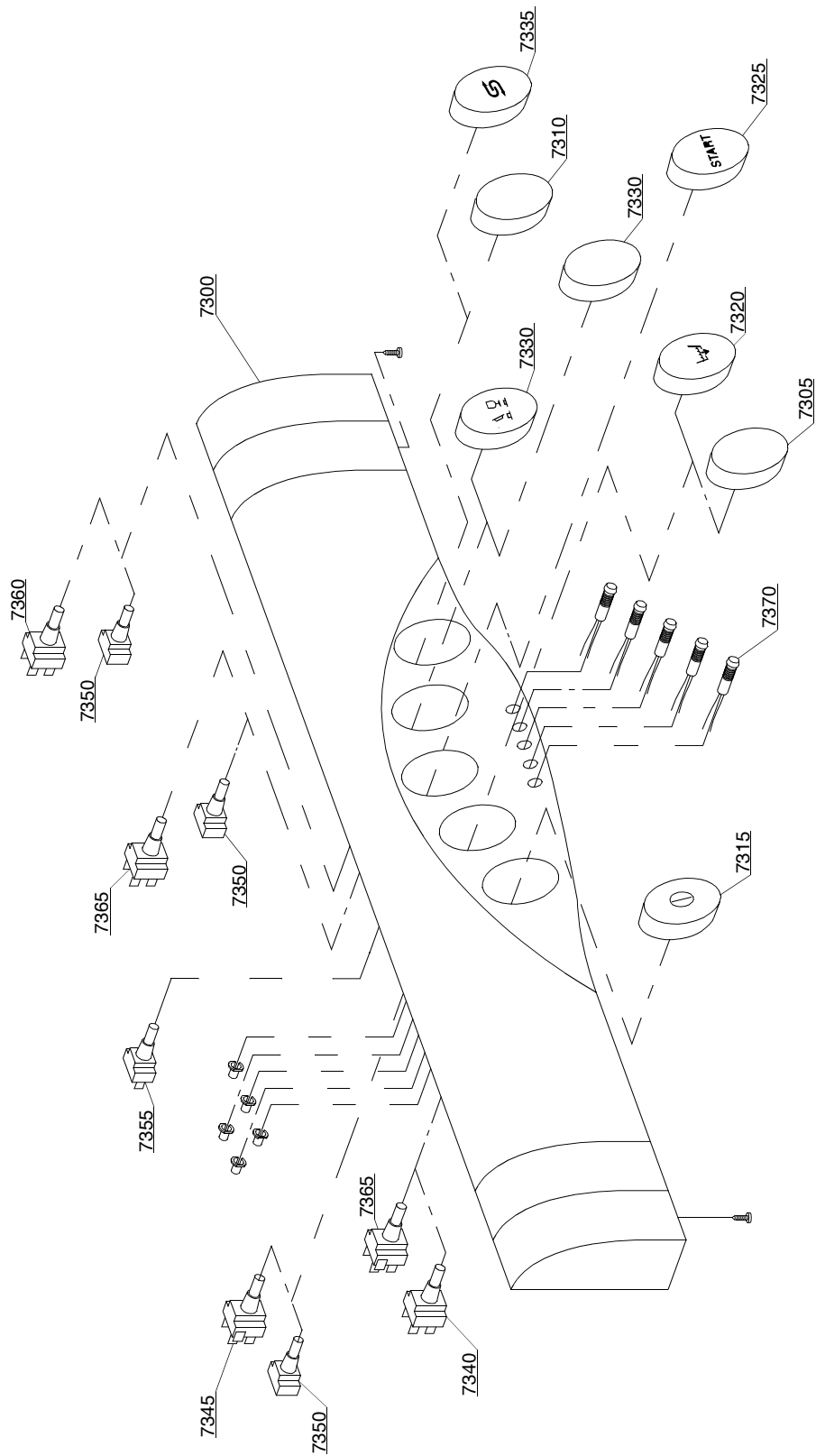
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| ID                        | P-code  | Model | Type | Accessory | Voltage | Description               |
|---------------------------|---------|-------|------|-----------|---------|---------------------------|
| MODULE:General body parts |         |       |      |           |         |                           |
| 4300                      | 560918  |       | 291P |           |         | Cover                     |
| 4305                      | 560919  |       | 291P |           |         | Back panel                |
| 4305                      | 560938  |       | 291P | bt        |         | Back panel                |
| 4310                      | 561000  |       | 291P |           |         | Body                      |
| 4315                      | 15065/A |       | 291P |           |         | Cable-fastener with screw |
| 4320                      | 561009  |       | 291P |           |         | Surface filter            |
| 4325                      | 540406  |       | 291P |           |         | 400W heating element      |
| 4330                      | 560914  |       | 291P |           |         | Right side                |
| 4335                      | 560915  |       | 291P |           |         | Left side                 |
| 4340                      | 10786   |       | 291P |           |         | M10x25 O40 black foot     |
| 4340                      | 15176   |       | 291P |           |         | M10 marina foot           |
| 4345                      | 560021  |       | 291P |           |         | Profile for door gasket   |
| 4365                      | 11711   |       | 291P |           |         | M10 zinc plated nut       |
|                           |         |       |      |           |         |                           |
|                           |         |       |      |           |         |                           |
|                           |         |       |      |           |         |                           |
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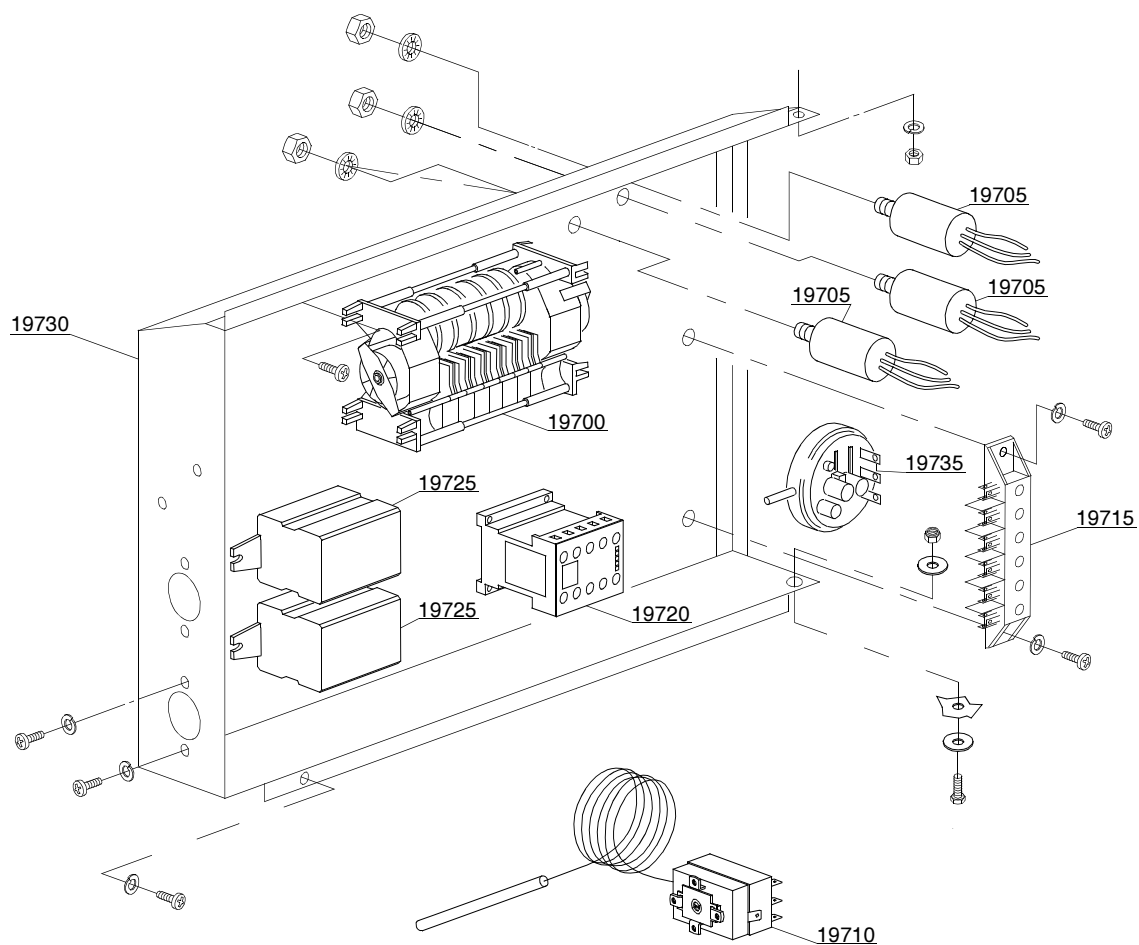
02\_003\_e

| ID                   | P-code | Model | Type | Accessory | Voltage | Description                     |
|----------------------|--------|-------|------|-----------|---------|---------------------------------|
| MODULE:Lockup system |        |       |      |           |         |                                 |
| 7100                 | 560916 |       | 291P |           |         | Door with plastic handle        |
| 7105                 | 560920 |       | 291P |           |         | Lower door                      |
| 7110                 | 10704  |       | 291P |           |         | Door microswitch                |
| 7115                 | 560003 |       | 291P |           |         | Door spring                     |
| 7120                 | 560006 |       | 291P |           |         | Right lock for door hinge       |
| 7125                 | 560007 |       | 291P |           |         | Left lock for door hinge        |
| 7130                 | 10770  |       | 291P |           |         | Insulating for door microswitch |
| 7135                 | 560013 |       | 291P |           |         | Profile for lower-door gasket   |
| 7140                 | 560550 |       | 291P |           |         | Plastic handle                  |
|                      |        |       |      |           |         |                                 |
|                      |        |       |      |           |         |                                 |
|                      |        |       |      |           |         |                                 |
|                      |        |       |      |           |         |                                 |
|                      |        |       |      |           |         |                                 |
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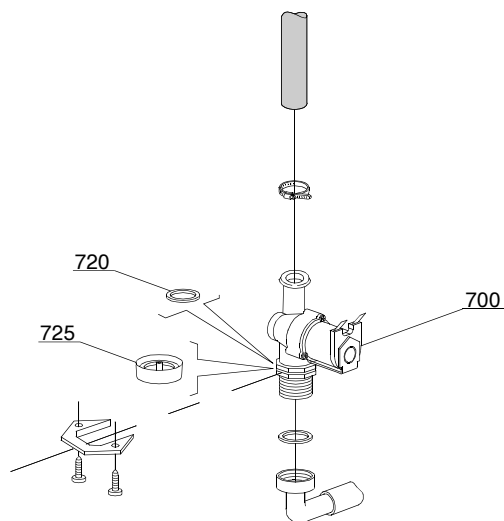
03\_102\_e

| ID                   | P-code   | Model | Type | Accessory | Voltage | Description                    |
|----------------------|----------|-------|------|-----------|---------|--------------------------------|
| MODULE:Control panel |          |       |      |           |         |                                |
| 7300                 | 560501   |       | 291P |           |         | Control panel                  |
| 7305                 | 560523/A |       | 291P |           |         | Key 2 with point               |
| 7310                 | 560526/A |       | 291P |           |         | Key 5 with point               |
| 7315                 | 560527/A |       | 291P |           |         | ON-OFF key 1                   |
| 7320                 | 560528/A |       | 291P |           |         | Drain pump key 2               |
| 7325                 | 560529/A |       | 291P |           |         | Start key 3                    |
| 7330                 | 560538   |       | 291P |           |         | Key 4 with point               |
| 7340                 | 15811    |       | 291P |           |         | 16A bipolar switch             |
| 7345                 | 15811/A  |       | 291P |           |         | 16A bipolar switch push button |
| 7350                 | 15844    |       | 291P |           |         | Key support                    |
| 7355                 | 15813    |       | 291P |           |         | 16A unipolar push button       |
| 7360                 | 15800    |       | 291P |           |         | 16A bipolar push button        |
| 7365                 | 15812    |       | 291P |           |         | 16A switch                     |
| 7370                 | 10711    |       | 291P |           |         | Pilot light                    |
|                      |          |       |      |           |         |                                |
|                      |          |       |      |           |         |                                |
|                      |          |       |      |           |         |                                |
|                      |          |       |      |           |         |                                |
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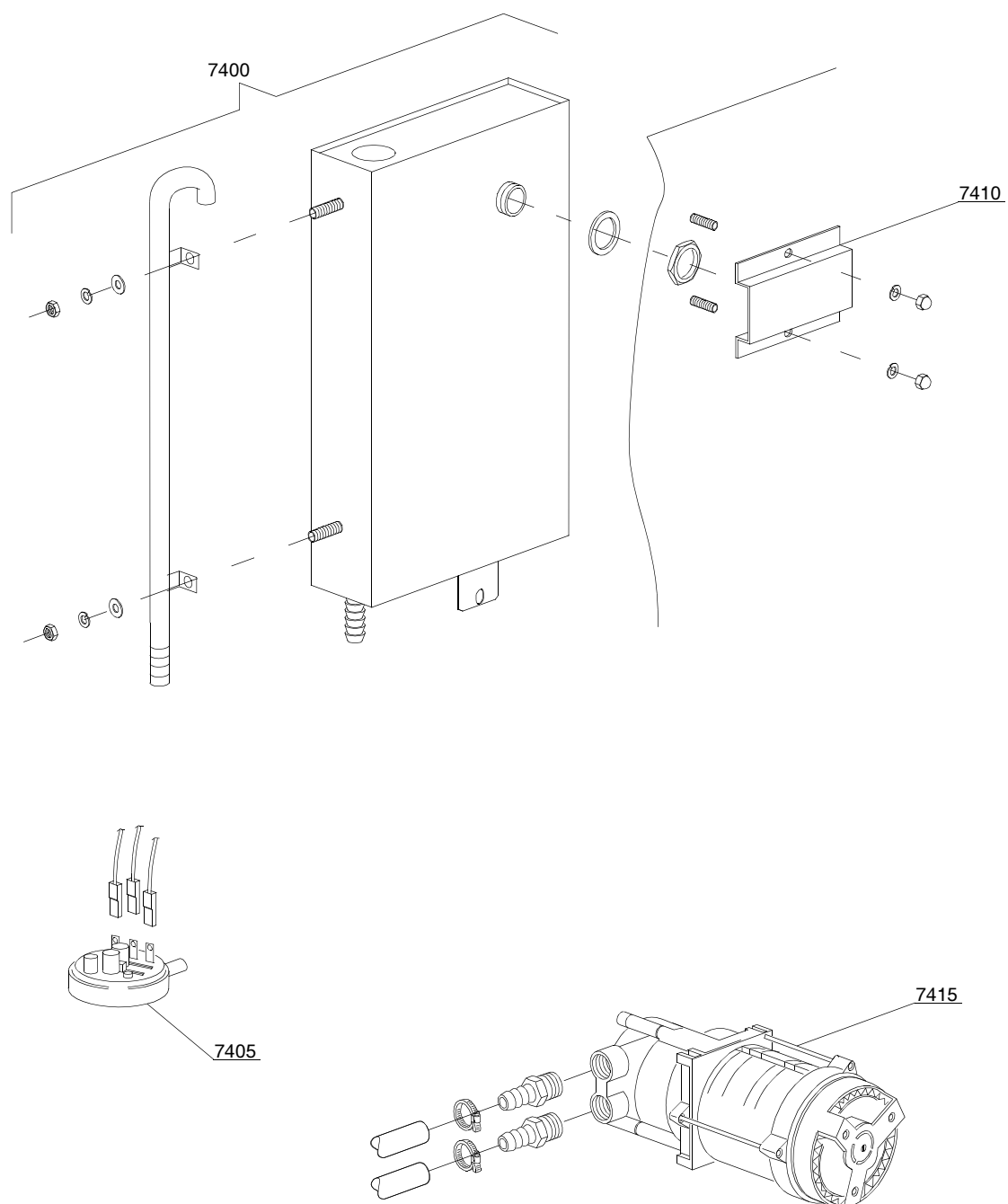
| ID                                 | P-code   | Model | Type | Accessory | Voltage | Description                           |
|------------------------------------|----------|-------|------|-----------|---------|---------------------------------------|
| MODULE:Control electric components |          |       |      |           |         |                                       |
| 19700                              | 10300125 |       | 291P |           |         | 150" timer                            |
| 19705                              | 15149    |       | 291P |           |         | Low noise filter                      |
| 19710                              | 10707/1  |       | 291P |           |         | 0-90°C thermostat                     |
| 19715                              | 500551   |       | 291P |           |         | 6 poles terminal board                |
| 19720                              | 15086    |       | 291P |           |         | Remote control switch 230V 50/60Hz 4C |
| 19725                              | 15620    |       | 291P |           |         | Bipolar relay in deviation            |
| 19730                              | 560921   |       | 291P |           |         | Electric components panel             |
| 19735                              | 10706/A  |       | 291P |           |         | 47-27 pressure switch                 |
|                                    |          |       |      |           |         |                                       |
|                                    |          |       |      |           |         |                                       |
|                                    |          |       |      |           |         |                                       |



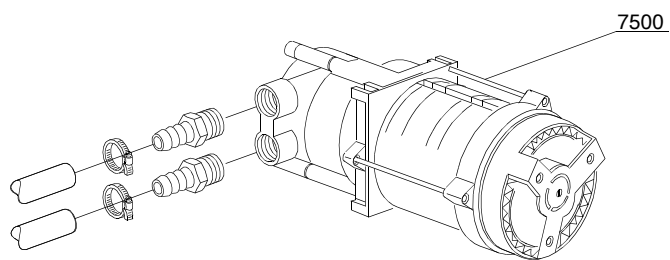
05\_002\_e

| ID                          | P-code | Model | Type | Accessory | Voltage | Description             |
|-----------------------------|--------|-------|------|-----------|---------|-------------------------|
| MODULE:Solenoid valve group |        |       |      |           |         |                         |
| 700                         | 10703  |       | 291P |           |         | Single solenoid valve   |
| 720                         | N.C.   |       | 291P |           |         | Pression reducing valve |
|                             |        |       |      |           |         |                         |
|                             |        |       |      |           |         |                         |

06\_002\_e

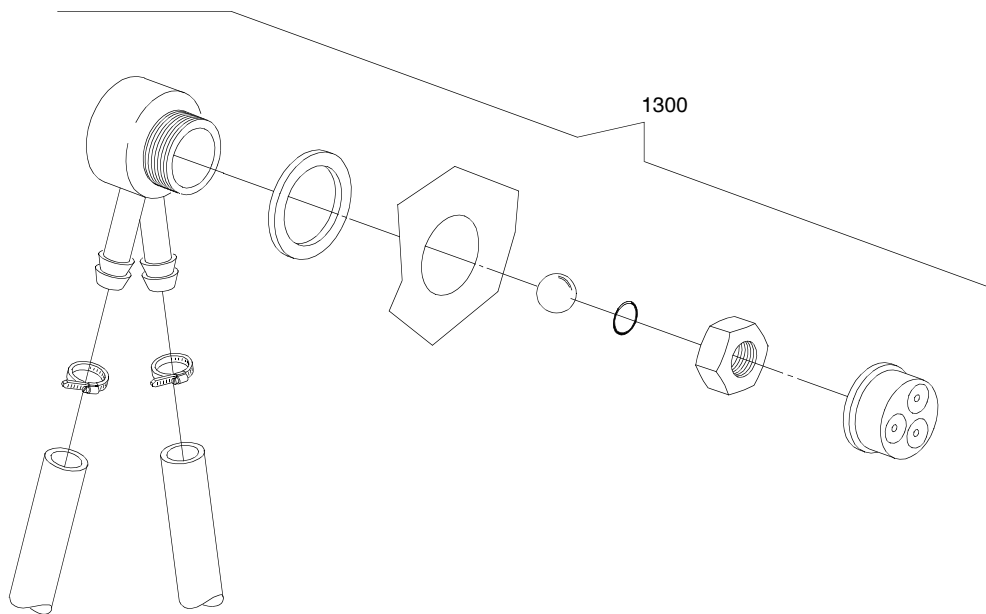


| ID                | P-code  | Model | Type | Accessory | Voltage | Description           |
|-------------------|---------|-------|------|-----------|---------|-----------------------|
| MODULE:Break Tank |         |       |      |           |         |                       |
| 7400              | 15735   |       | 291P | bt        |         | Break tank assembly   |
| 7405              | 10706/A |       | 291P | bt        |         | 47-27 pressure switch |
| 7410              | 15738   |       | 291P | bt        |         | Hole protection       |
| 7415              | 15100/D |       | 291P | bt        |         | Booster pump          |
|                   |         |       |      |           |         |                       |
|                   |         |       |      |           |         |                       |



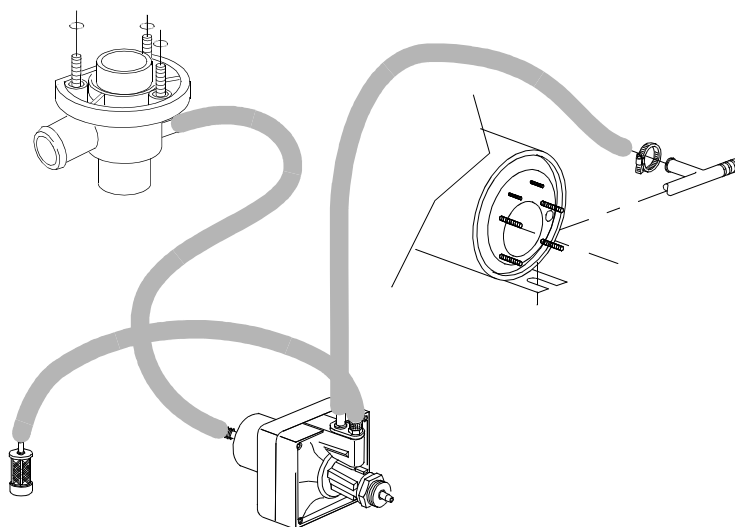
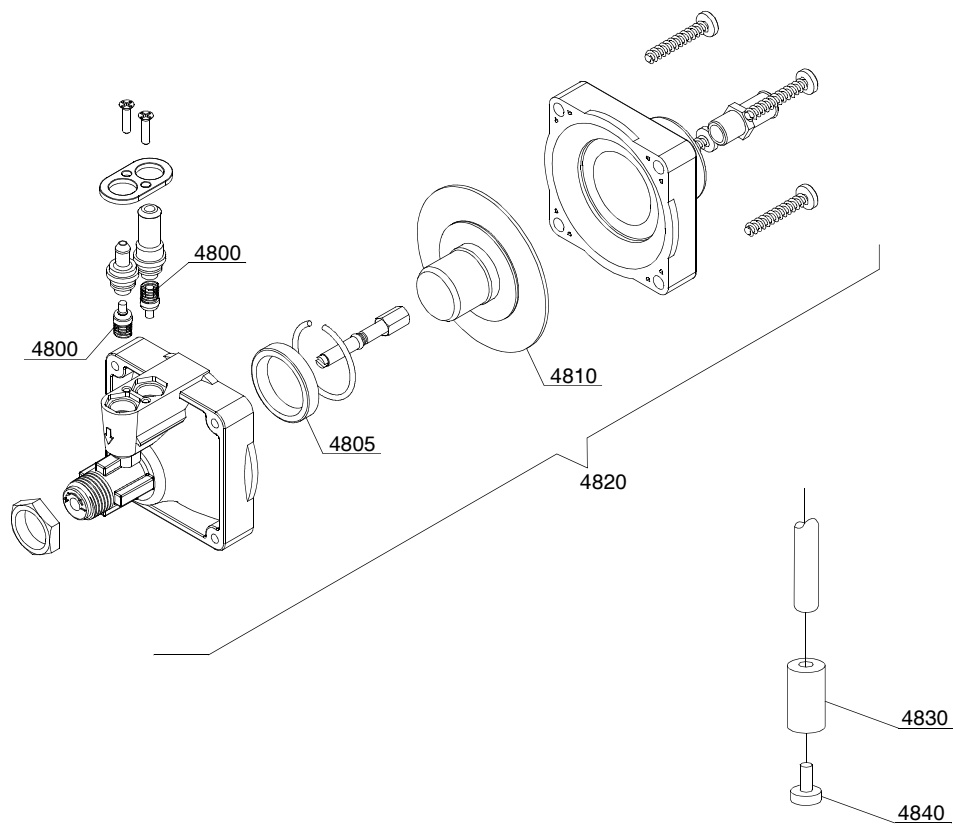
07\_003\_e

| ID                  | P-code  | Model | Type | Accessory | Voltage | Description  |
|---------------------|---------|-------|------|-----------|---------|--------------|
| MODULE:Booster pump |         |       |      |           |         |              |
| 7500                | 15100/D |       | 291P | bp        |         | Booster pump |
|                     |         |       |      |           |         |              |
|                     |         |       |      |           |         |              |



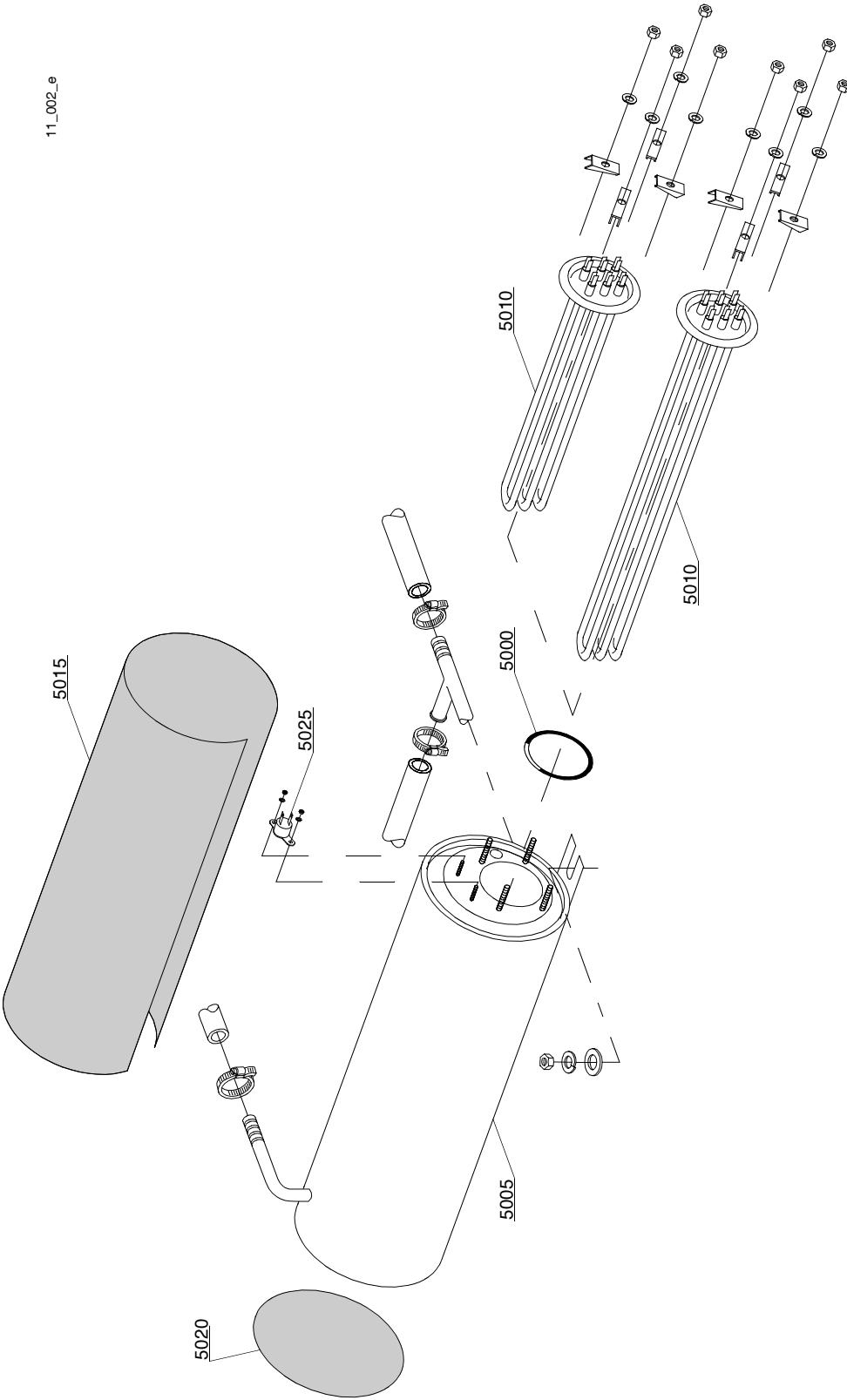
08\_005\_e

| ID          | P-code    | Model | Type | Accessory | Voltage | Description   |
|-------------|-----------|-------|------|-----------|---------|---------------|
| MODULE:DVGW |           |       |      |           |         |               |
| 1300        | 999900006 |       | 291P | dvgw      |         | DVGW assembly |
|             |           |       |      |           |         |               |
|             |           |       |      |           |         |               |

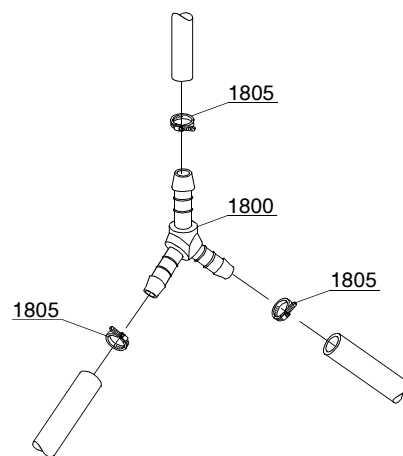


10\_004\_e

| ID                                         | P-code | Model | Type | Accessory | Voltage | Description                   |
|--------------------------------------------|--------|-------|------|-----------|---------|-------------------------------|
| MODULE:Shining product dosing device group |        |       |      |           |         |                               |
| 4800                                       | 10805  |       | 291P |           |         | Tecnopro dosing valve         |
| 4805                                       | 10806  |       | 291P |           |         | O22 gasket                    |
| 4810                                       | 10807  |       | 291P |           |         | Membrane                      |
| 4820                                       | 10799  |       | 291P |           |         | Shining product dosing device |
| 4830                                       | 12525  |       | 291P |           |         | Counter-weight                |
| 4840                                       | 15058  |       | 291P |           |         | Small filter                  |
|                                            |        |       |      |           |         |                               |
|                                            |        |       |      |           |         |                               |
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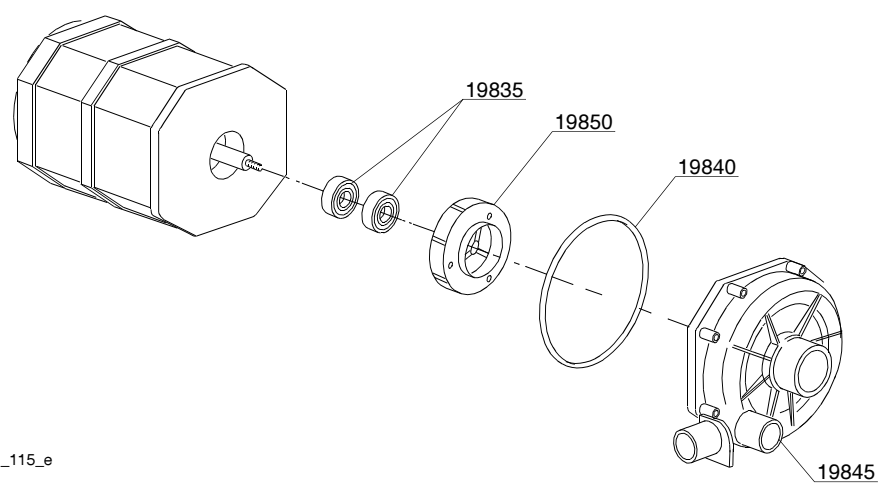
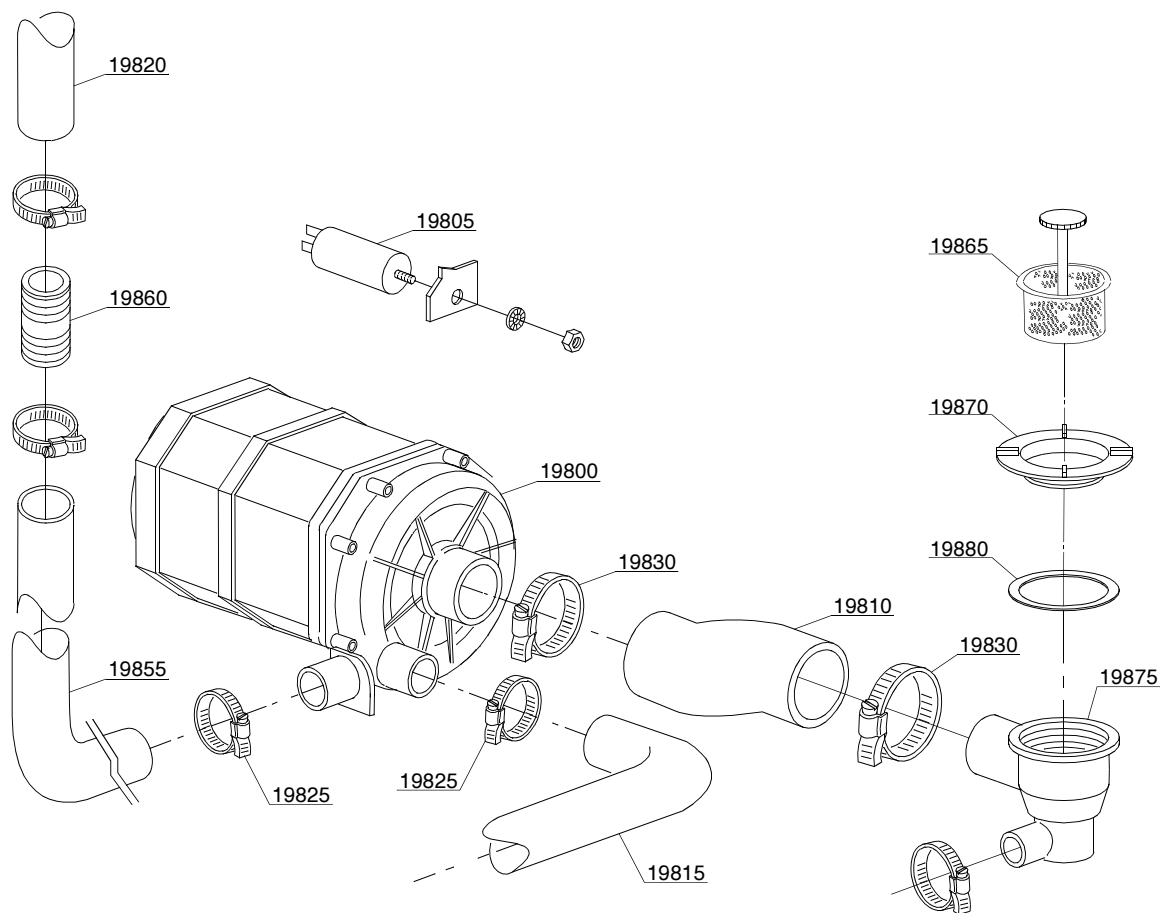


| ID                  | P-code  | Model | Type | Accessory | Voltage | Description                |
|---------------------|---------|-------|------|-----------|---------|----------------------------|
| MODULE:Boiler group |         |       |      |           |         |                            |
| 5000                | 13005   |       | 291P |           |         | OR 151 NBR gasket          |
| 5005                | 150905  |       | 291P |           |         | Boiler                     |
| 5010                | 15089   |       | 291P |           |         | 4,5KW heating element      |
| 5010                | 15089/E |       | 291P |           |         | 6KW - 230V heating element |
| 5015                | 15066   |       | 291P |           |         | Insulating boiler          |
| 5020                | 15205   |       | 291P |           |         | O160 bottom                |
| 5025                | 15550   |       | 291P |           |         | Safety thermostat          |
|                     |         |       |      |           |         |                            |
|                     |         |       |      |           |         |                            |
|                     |         |       |      |           |         |                            |
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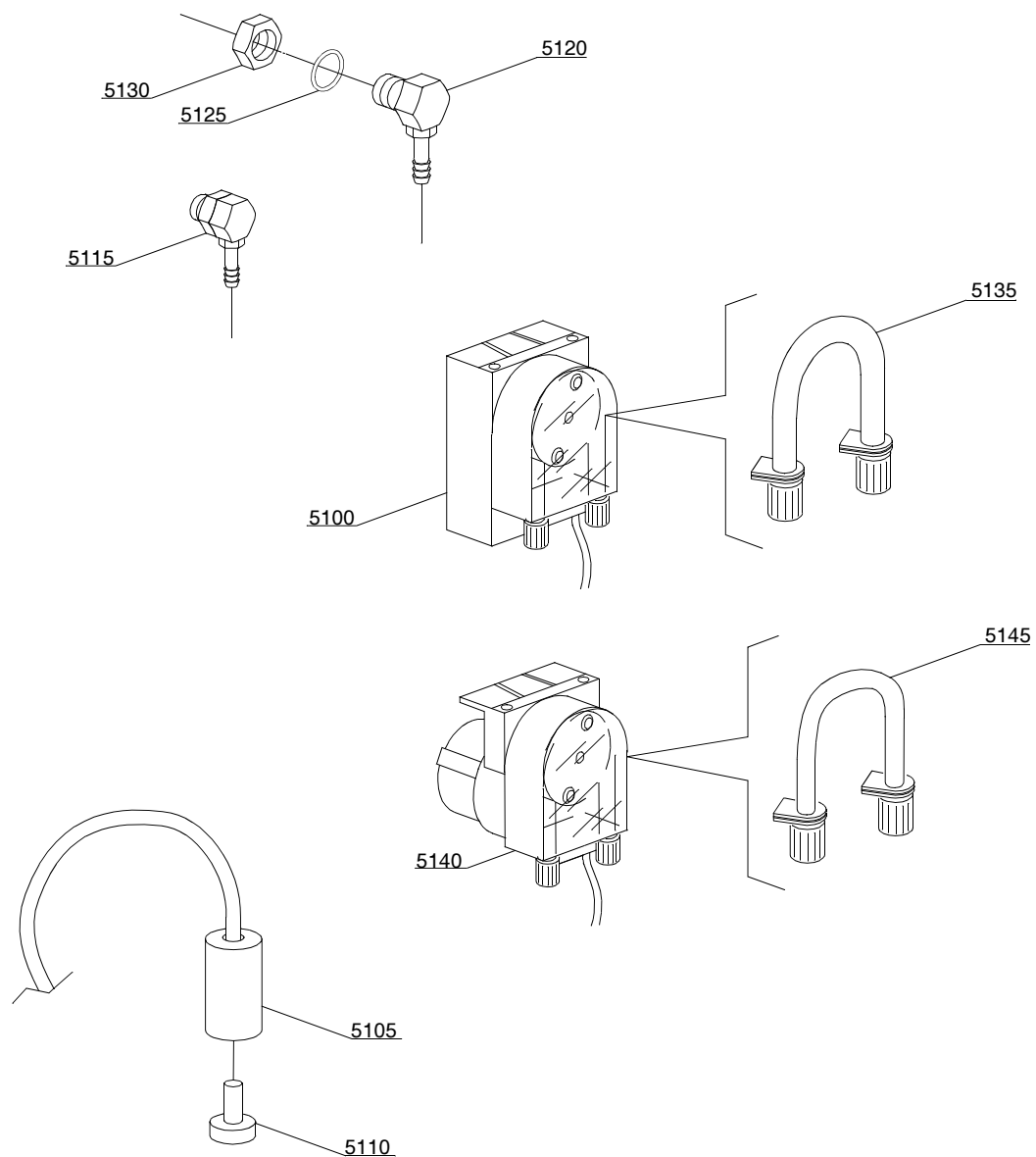
12\_003\_e

| ID                       | P-code | Model | Type | Accessory | Voltage | Description                      |
|--------------------------|--------|-------|------|-----------|---------|----------------------------------|
| MODULE:3 ways derivation |        |       |      |           |         |                                  |
| 1800                     | 540091 |       | 291P |           |         | O12 mm plastic 3 ways derivation |
| 1805                     | 11807  |       | 291P |           |         | 12/22 clamp                      |
|                          |        |       |      |           |         |                                  |
|                          |        |       |      |           |         |                                  |



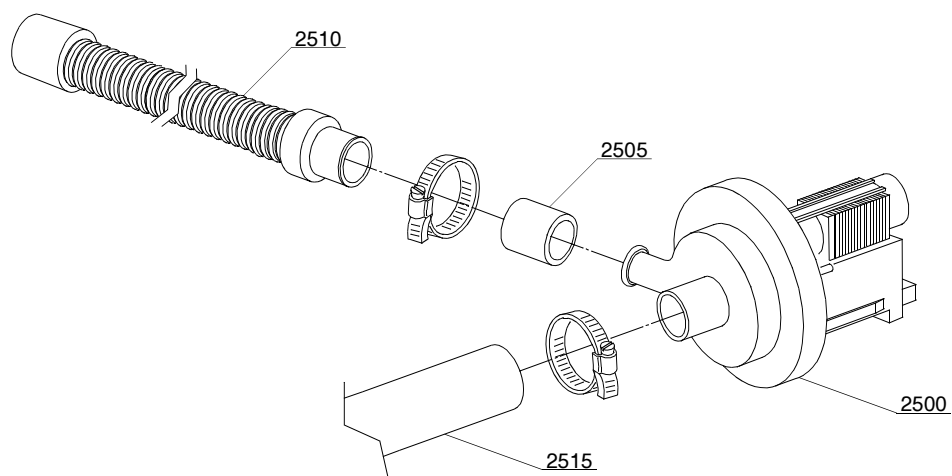
13\_115\_e

| ID               | P-code  | Model | Type | Accessory | Voltage | Description           |
|------------------|---------|-------|------|-----------|---------|-----------------------|
| MODULE:Wash pump |         |       |      |           |         |                       |
| 19800            | 150914  |       | 291P |           |         | 0,70Hp wash pump      |
| 19805            | 15081   |       | 291P |           |         | 12,5 uF condenser     |
| 19810            | 25032/A |       | 291P |           |         | Suction pipe coupling |
| 19815            | 560008  |       | 291P |           |         | Top delivery pipe     |
| 19820            | 540004  |       | 291P |           |         | Top delivery pipe     |
| 19825            | 11806   |       | 291P |           |         | 25/40 clamp           |
| 19830            | 11809   |       | 291P |           |         | 30/45 clamp           |
| 19835            | 15080   |       | 291P |           |         | Rotating seals        |
| 19840            | 7130    |       | 291P |           |         | OR pump gasket        |
| 19845            | 16182   |       | 291P |           |         | Scroll                |
| 19850            | 15079/F |       | 291P |           |         | Pump rotor            |
| 19855            | 18044   |       | 291P |           |         | O28 top wash pipe     |
| 19860            | 561014  |       | 291P |           |         | Inox pipe coupling    |
| 19865            | 561013  |       | 291P |           |         | Pump suction filter   |
| 19870            | 500615  |       | 291P |           |         | Ferrule with filter   |
| 19875            | 500606  |       | 291P |           |         | Right side scrap tray |
| 19880            | 80208   |       | 291P |           |         | 95x75x3 gasket        |
|                  |         |       |      |           |         |                       |
|                  |         |       |      |           |         |                       |
|                  |         |       |      |           |         |                       |
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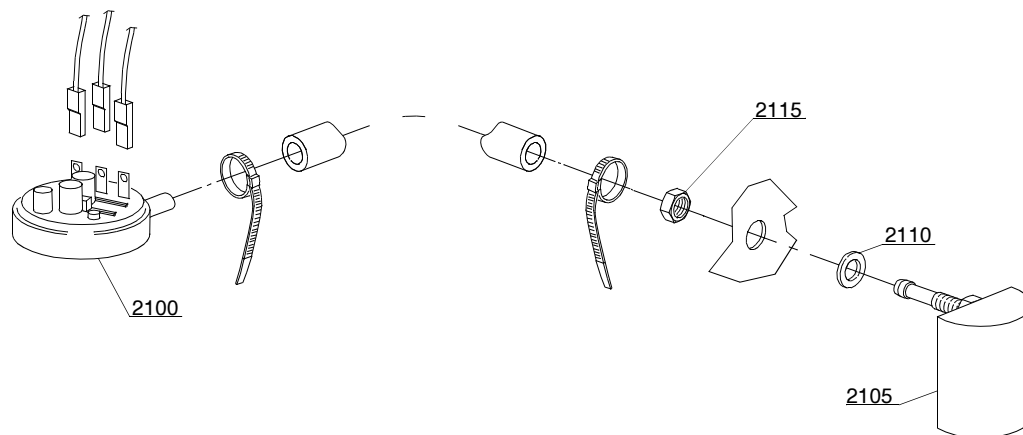
14\_004\_e

| ID                         | P-code   | Model | Type | Accessory | Voltage | Description               |
|----------------------------|----------|-------|------|-----------|---------|---------------------------|
| MODULE:Dosing device group |          |       |      |           |         |                           |
| 5100                       | 15985    |       | 291P | dd        |         | Seko dosing device        |
| 5105                       | 12525    |       | 291P | dd        |         | Counter-weight            |
| 5110                       | 15058    |       | 291P | dd        |         | Small filter              |
| 5115                       | 15123    |       | 291P | dd        |         | Compleat plastic injector |
| 5120                       | 15148    |       | 291P | dd        |         | Steel injector            |
| 5125                       | 15159    |       | 291P | dd        |         | OR gasket                 |
| 5130                       | 10200205 |       | 291P | dd        |         | M12x1 stainless steel nut |
| 5135                       | 15185    |       | 291P | dd        |         | Seko thermoplastic pipe   |
| 5140                       | 15985    |       | 291P | dd        |         | Germac dosing device      |
| 5145                       | 15108/E  |       | 291P | dd        |         | Germac thermoplastic pipe |
|                            |          |       |      |           |         |                           |
|                            |          |       |      |           |         |                           |
|                            |          |       |      |           |         |                           |
|                            |          |       |      |           |         |                           |
|                            |          |       |      |           |         |                           |



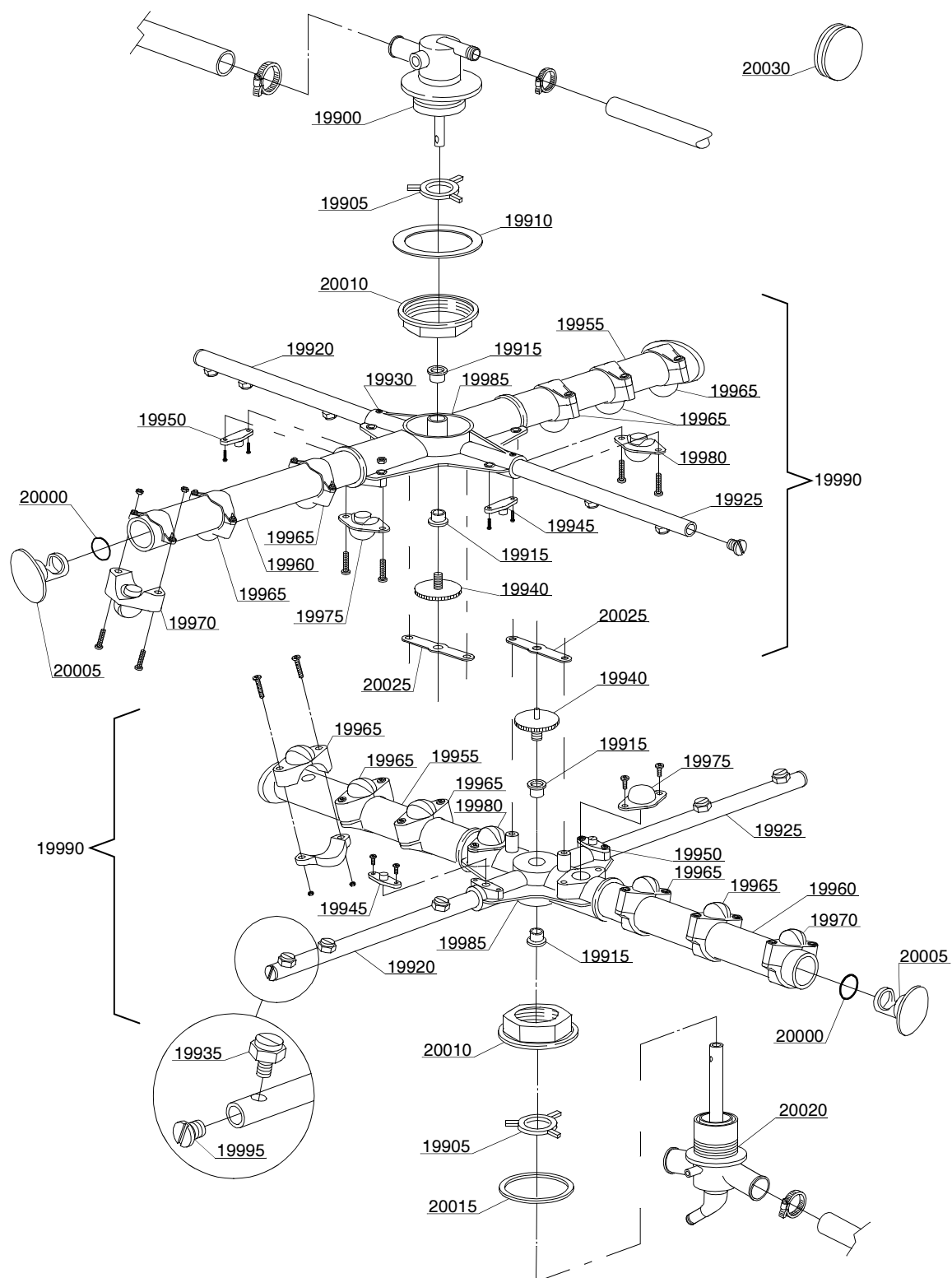
15\_004\_e

| ID                      | P-code  | Model | Type | Accessory | Voltage | Description       |
|-------------------------|---------|-------|------|-----------|---------|-------------------|
| MODULE:Drain pump group |         |       |      |           |         |                   |
| 2500                    | 15101   |       | 291P | dp        |         | Drain pump        |
| 2505                    | 15101/D |       | 291P | dp        |         | Pipe fitting      |
| 2510                    | 10727   |       | 291P | dp        |         | Drain pipe        |
| 2515                    | 18044   |       | 291P | dp        |         | O28 top wash pipe |
|                         |         |       |      |           |         |                   |



16\_001\_e

| ID                                         | P-code   | Model | Type | Accessory | Voltage | Description            |
|--------------------------------------------|----------|-------|------|-----------|---------|------------------------|
| MODULE:Pressure switch group with air trap |          |       |      |           |         |                        |
| 2100                                       | 10706/A  |       | 291P |           |         | 47-27 pressure switch  |
| 2105                                       | 135911/E |       | 291P |           |         | Grey air trap assembly |
| 2110                                       | 13301    |       | 291P |           |         | Gasket                 |
| 2115                                       | 11702    |       | 291P |           |         | M8 stainless steel nut |
|                                            |          |       |      |           |         |                        |
|                                            |          |       |      |           |         |                        |
|                                            |          |       |      |           |         |                        |
|                                            |          |       |      |           |         |                        |



17\_113\_e

| ID                                     | P-code  | Model | Type | Accessory | Voltage | Description                        |
|----------------------------------------|---------|-------|------|-----------|---------|------------------------------------|
| MODULE:Turret group with rotating arms |         |       |      |           |         |                                    |
| 19900                                  | 540072  |       | 291P |           |         | Top grey turret for rinse rotor    |
| 19905                                  | 10225   |       | 291P |           |         | Guide pipe                         |
| 19910                                  | 540034  |       | 291P |           |         | O57x43x1,5 plane gasket            |
| 19915                                  | 13319   |       | 291P |           |         | Sliding washer                     |
| 19920                                  | 561004  |       | 291P |           |         | Right rinse pipe                   |
| 19925                                  | 561005  |       | 291P |           |         | Left rinse pipe                    |
| 19930                                  | 11004   |       | 291P |           |         | 4x10 TCB O8 spax toothed screw     |
| 19935                                  | 560018  |       | 291P |           |         | Stainless steel rinse nozzle       |
| 19940                                  | 11101/I |       | 291P |           |         | Stainless steel group fixing screw |
| 19945                                  | 10267   |       | 291P |           |         | Head closed rinse nozzle           |
| 19950                                  | 10263   |       | 291P |           |         | Head rinse nozzle                  |
| 19955                                  | 561006  |       | 291P |           |         | Right wash pipe                    |
| 19960                                  | 561007  |       | 291P |           |         | Left wash pipe                     |
| 19965                                  | 10221   |       | 291P |           |         | Small raised head wash nozzle      |
| 19970                                  | 10264   |       | 291P |           |         | Raised head wash nozzle            |
| 19975                                  | 10265   |       | 291P |           |         | Plain head closed wash nozzle      |
| 19980                                  | 10266   |       | 291P |           |         | Plain head wash nozzle             |
| 19985                                  | 10258   |       | 291P |           |         | Wash rotor                         |
| 19990                                  | 561008  |       | 291P |           |         | Top/lower wash/rinse group         |
| 19995                                  | 560017  |       | 291P |           |         | Rinse arm plug                     |
| 20000                                  | 13016   |       | 291P |           |         | 2018 OR 103 NBR gasket             |
| 20005                                  | 10256   |       | 291P |           |         | O18 plastic plug                   |
| 20010                                  | 540010  |       | 291P |           |         | Turret fixing nut                  |
| 20015                                  | 540032  |       | 291P |           |         | O57x43x4 turret plane gasket       |
| 20020                                  | 540068  |       | 291P |           |         | Lower grey turret for rotor        |
| 20025                                  | 10260   |       | 291P |           |         | Blocking ring nut rotor plaque     |
| 20030                                  | 13316/A |       | 291P |           |         | DVGW hole gasket                   |
|                                        |         |       |      |           |         |                                    |
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