

# IMMERSION HOMOGENIZERS

## MICCRA - SERIES D

These high-speed homogenisers are ideal for all clinical and chemistry laboratory applications. Applications vary from homogenizing waste water samples to use in laboratory reactors, dispersion/homogenizing reactions, tissue break-up in diagnostic medical and clinical analyses and for suspensions such as those separated by centrifugation.

Light compact design, all motors can be hand-held

The powerful motors offer very high rotation speeds (e.g. 39,000 rpm in the case of the micra D-8) to reduce process times and product heating. Thus obtaining a high quality sample and small dimensions.

Automatic power surge protection extends motor life. A red pilot light indicates when the instrument is off (Micra D-13)

Safety switch for discontinuous and continuous operation; safety cut-out device interrupts high speed operation in the event of an emergency.

Comfortable and safe with easy start-up

Standard rods can be adapted to all combinations of stators.



# IMMERSION HOMOGENIZERS

## MICCRA D - 3/PA

Portable battery-operated homogeniser complete with battery charger. Designed especially for breaking up tissue in clinical /diagnostic analyses and for suspensions.

**Minimum battery durability 1/2 huor**



| Technical Specifications                           |            |                    |
|----------------------------------------------------|------------|--------------------|
| Inlet power                                        | W          | 350                |
| Outlet power                                       | W          | 200                |
| Speed range                                        | rpm        | 18.000 fixes       |
| Speed adjustment                                   | continuous | no                 |
| Electronic adjustment                              |            | no                 |
| Disturbance free, in compliance with EEC standards |            | EN 55014           |
| Operating temperature                              | °C         | +5+50              |
| Humidity                                           | %          | 85                 |
| Power surge indication                             |            | acustic            |
| Power surge protection                             | thermal    | no                 |
| Safety switch                                      |            | no                 |
| Safety start-up                                    |            | no                 |
| Dimensions Ø x H                                   | mm         | 66 x 225           |
| Motor weight                                       | kg         | 1,6                |
| Item                                               |            | <b>632.1051.03</b> |

V/HZ  
12

SAFETY  
CLASS  
2

PROTECTION  
RATING  
IP 20

## MICCRA D - 1

Medium sized homogeniser but great flexibility, ideal for small volumes

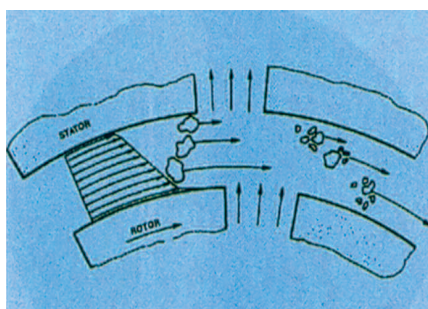


| Technical Specifications                           |            |                    |
|----------------------------------------------------|------------|--------------------|
| Inlet power                                        | W          | 145                |
| Outlet power                                       | W          | 73                 |
| Speed range                                        | rpm        | 5.000-35.000       |
| Speed adjustment                                   | continuous | yes                |
| Electronic adjustment                              |            | Wave               |
| Disturbance free, in compliance with EEC standards |            | EN 55014           |
| Operating temperature                              | °C         | +5 +45             |
| Humidity                                           | %          | 93                 |
| Power surge indication                             |            | acustic            |
| Power surge protection                             | thermal    | yes                |
| Safety switch                                      |            | yes                |
| Safety start-up                                    |            | yes                |
| Dimensions Ø x H                                   | mm         | 50 x 230           |
| Motor weight                                       | kg         | 0,800              |
| Item                                               |            | <b>632.1051.05</b> |

V/HZ  
230/50-60

SAFETY  
CLASS  
2

PROTECTION  
RATING  
IP 20



### The rotor - stator principle

Thanks to the high speed rotor the fluid treated is automatically pumped up through the dispersion head and then expelled radially through the slats between the rotor and stator. As the force of acceleration is high the material is subject to a high cutting and thrust forces. The high turbulence between the rotor and stator mixes the suspension thoroughly. An important factor to achieve perfect homogenisation is the product of the speed gradient modified by the length the particles remain in the cutting area. The optimum range of peripheral velocity of the rotor-stator ranges from 10 to 24 m/s.

# IMMERSION HOMOGENIZERS

## MICCRA D - 9

This hi-power homogeniser is ideal for all operations involving the grinding of dry or tendinous tissue and emulsifying.

| Technical Specifications                           |            |                    |
|----------------------------------------------------|------------|--------------------|
| Inlet power                                        | W          | 850                |
| Outlet power                                       | W          | 495                |
| Speed range                                        | rpm        | 11000-39000        |
| Speed adjustment                                   | continuous | yes                |
| Electronic adjustment                              |            | wave               |
| Disturbance free, in compliance with EEC standards | EN         | 55014              |
| Operating temperature                              | °C         | +5+50              |
| Humidity                                           | %          | 85                 |
| Power surge indication                             |            | acustic            |
| Power surge protection                             | thermal    | yes                |
| Safety switch                                      |            | yes                |
| Safety start-up                                    |            | yes                |
| Dimensions Ø x H                                   | mm         | 66x210             |
| Motor weight                                       | kg         | 1,4                |
| <b>Item</b>                                        |            | <b>632.1051.08</b> |

V/Hz  
230/50-60

SAFETY  
CLASS  
2

PROTECTION  
RATING  
IP 20



## MICCRA D - 15

manca

Omogeneizzatore di elevata potenza. Ideale in laboratori ed impianti pilota, il motore è stato studiato appositamente per l'utilizzo di lunghi periodi, la regolazione integrata garantiscono una velocità costante anche in caso di variazione della viscosità

| Technical Specifications                           |            |                           |
|----------------------------------------------------|------------|---------------------------|
| Inlet power                                        | W          | 1520                      |
| Outlet power                                       | W          | 900                       |
| Speed range                                        | rpm        | 8800-33600                |
| Speed adjustment                                   | continuous | yes                       |
| Electronic adjustment                              |            | wave with speed indicator |
| Disturbance free, in compliance with EEC standards | EN         | 55014                     |
| Operating temperature                              | °C         | +5+50                     |
| Humidity                                           | %          | 85                        |
| Power surge indication                             |            | visivo                    |
| Power surge protection                             | thermal    | yes                       |
| Safety switch                                      |            | yes                       |
| Safety start-up                                    |            | yes                       |
| Dimensions Ø x H                                   | mm         | 70x270                    |
| Motor weight                                       | kg         | 2                         |
| <b>Item</b>                                        |            | <b>632.1051.13</b>        |

V/Hz  
230/50-60

SAFETY  
CLASS  
2

PROTECTION  
RATING  
IP 20



# IMMERSION HOMOGENIZERS

## SYSTEM RECOMMENDATIONS

MICCRA tools offer a wide variety of potential applications in science, research, manufacturing, and other areas. The following check list is intended as a reference and we've divided the various tasks into a few main categories.

| Field of use                                                                                                                                  | Process                                                                                                                             | Sample volume                                 | Tool                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------------|
| Biotechnology<br>Medicine<br>Food industry<br>Pharmaceutical industry                                                                         | Coarse crushing and final processing: preparation of emulsions and cell suspensions; shredding of human, animal, and plant tissues. | 0,1-10 ml<br>1,0-100 ml                       | DS-5/K<br>DS-8/P                                             |
| Pharmaceutical chemistry<br>Building materials industry<br>Petrochemistry<br>Environmental control                                            | Standard equipment for coarse crushing of hard solids in a liquid..                                                                 | 100-5.000 ml<br>250-10.000 ml                 | DS-20/PG<br>DS-30/PG                                         |
| Waste water/sludge<br>Medicine<br>Food industry<br>Paper/pulp industry<br>Tobacco industry<br>Environmental control                           | Coarse crushing and disruption of human, animal, and plant tissues.                                                                 | 100-5.000 ml<br>100-3.000 ml<br>250-10.000 ml | DS-20/PG SmR<br>DS-20/PF SmR<br>DS-30/PG SmR                 |
| Ceramics industry<br>Dye and lacquer industry<br>Metal working industry                                                                       | Breaking up agglomerates<br>intense mixing , preparing suspensions                                                                  | 100-5.000 ml.<br>250-10.000 ml.               | DS-20/PG MiR<br>DS-30/PG MiR                                 |
| Waste water/sludge<br>Dye and lacquer industry<br>Leather industry<br>Paper/pulp industry<br>Pharmaceutical industry<br>Environmental control | Standard equipment for crushing / pulverising of hard solids in a liquid, dispersing fine particles                                 | 100-3.000 ml.<br>250-8.000 ml.                | DS-20/PF<br>DS-30/PF                                         |
| Waste water/sludge<br>Biotechnology<br>Medicine<br>Food industry<br>Paper/pulp industry<br>Tobacco industry<br>Textile industry               | Standard equipment for final processing, sample preparation, and shredding of human, animal, and plant tissues.                     | 100-3.000 ml<br>250-8.000 ml                  | DS-20/PF SmR<br>DS-30/PF SmR                                 |
| Ceramics industry<br>Cosmetics industry<br>Dye and lacquer industry<br>Food industry<br>Paper/pulp industry<br>Petrochemistry                 | Standard equipment for final preparing emulsions, intense mixing                                                                    | 100-2.500 ml<br>250-7.000 ml                  | DS-20/PF MiR<br>DS-20/PF EmR<br>DS-30/PF MiR<br>DS-30/PF EmR |
| Ceramics industry<br>Food industry<br>Environmental control                                                                                   | High-speed or intense mixing with less shearing effect.                                                                             | 250-20.000 ml<br>2.000-50.000 ml              | RW-30/PG<br>RW-40/PG                                         |

# ROD STATOR & ROTOR

FOR VOLUMES DA 0,1 - 100 ML

ROD STATOR  
AND ROTOR  
AND  
INCORPORATED  
CONTAINER  
DS-10/KS



ROTOR  
STATOR  
IN PLASTIC  
FOR SOFT  
TESSUES

ROD STATOR  
INCORPORATED  
AND ROTOR  
DS-5/K



ROTOR  
STATOR  
IN A UNIQUE  
PIECE

ROD STATOR  
INCORPORATED  
AND ROTOR  
DS-8/P



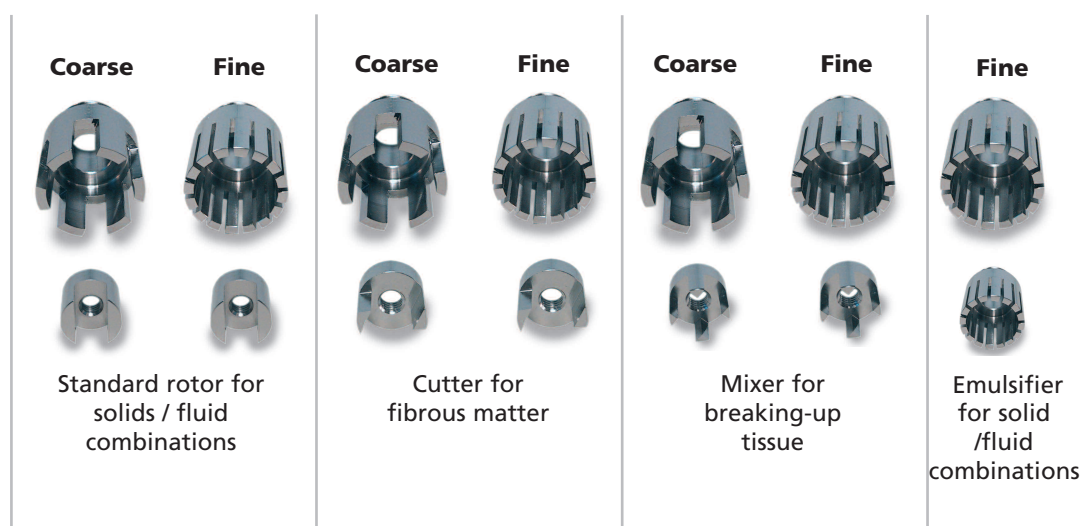
ROTOR  
STATOR  
IN A UNIQUE  
PIECE

| Technical Specifications            |     |                    |                    |                    |
|-------------------------------------|-----|--------------------|--------------------|--------------------|
| Recommended volume H <sup>2</sup> O | ml  | 5 - 10             | 0,1 - 20           | 1,0 - 100          |
| Max. peripheral velocity            | m/s | 13,2               | 7,3                | 11,4               |
| Ø rotor                             | mm  | 6,5                | 3,6                | 5,6                |
| Ø stator                            | mm  | 10                 | 5                  | 8                  |
| Usable length of tool               | mm  | 116                | 120                | 155                |
| Max depth of immersion              | mm  | fixed tube         | 50                 | 90                 |
| Hardness in "Mohs"                  | max | Plastic            | 6                  | 6                  |
| Sterilization                       |     | no                 | yes                | yes                |
| Ø granules fibrous matter           | mm  | 5 -10              | 3                  | 10                 |
| Ø granules hard and dry matter      | mm  | not recommended    | 0,5                | 3,5                |
| Item                                |     | <b>632.1052.00</b> | <b>632.1052.04</b> | <b>632.1052.01</b> |



# ROD STATOR & ROTOR

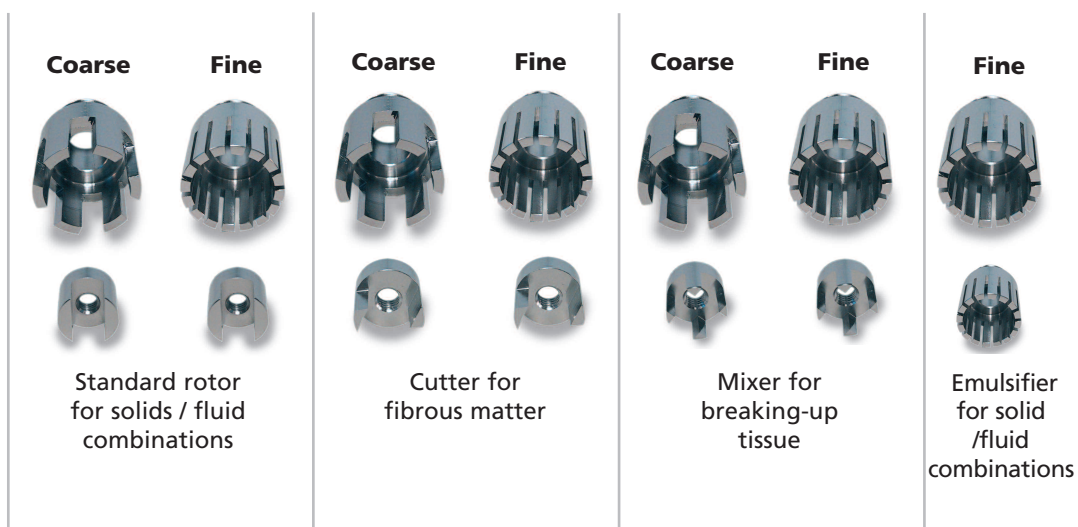
FOR VOLUMES DA 100 - 5.000 ML



| Technical Specifications            |     | DS-20/PG           | DS-20/PF           | DS-20/PG SmR       | DS-20/PF SmR       | DS-20/PG MiR       | DS-20/PF MiR       | DS-20/PF EmR       |
|-------------------------------------|-----|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Recommended volume H <sub>2</sub> O | ml  | 100 - 5.000        | 100 - 3.000        | 100 - 5.000        | 100 - 3.000        | 100 - 5.000        | 100 - 3.000        | 100 - 3.000        |
| Max. peripheral velocity            | m/s | 30,6               | 30,6               | 30,6               | 30,6               | 30,6               | 30,6               | 30,6               |
| Ø rotor                             | mm  | 15                 | 15                 | 15                 | 15                 | 15                 | 15                 | 15                 |
| Ø stator                            | mm  | 20                 | 20                 | 20                 | 20                 | 20                 | 20                 | 20                 |
| Usable length of tool               | mm  | 250                | 250                | 250                | 250                | 250                | 250                | 250                |
| Max depth of immersion              | mm  | 200                | 200                | 200                | 200                | 200                | 200                | 200                |
| Hardness in "Mohs"                  | max | 6 6                | 6 6                | 6 6                | 6                  |                    |                    |                    |
| Sterilization                       |     | yes                | yes                | yes                | yes                | yes                | yes                | yes                |
| Ø granules fibrous matter           | mm  |                    |                    | approx.100         | approx. 50         |                    |                    |                    |
| Ø gran. hard and dry matter         | mm  | approx. 8          | approx.1,5         |                    |                    | approx. 8          | approx.1,5         | max 1,5            |
| Item                                |     | <b>632.1052.03</b> | <b>632.1052.09</b> | <b>632.1052.05</b> | <b>632.1052.11</b> | <b>632.1052.07</b> | <b>632.1052.13</b> | <b>632.1052.14</b> |

# ROD STATOR & ROTOR

FOR VOLUMES DA 250 - 10.000 ML



| Technical Specifications            |     | DS-30/PG           | DS-30/PF           | DS-30/PG SmR       | DS-30/PF SmR       | DS-30/PG MiR       | DS-30/PF MiR       | DS-30/PF EmR       |
|-------------------------------------|-----|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Recommended volume H <sub>2</sub> O | ml  | 250 - 10.000       | 250 - 8.000        | 250 - 10.000       | 250 - 8.000        | 250 - 10.000       | 250 - 8.000        | 250 - 8.000        |
| Max. peripheral velocity            | m/s | 47                 | 47                 | 47                 | 47                 | 47                 | 47                 | 47                 |
| Ø rotor                             | mm  | 23                 | 23                 | 23                 | 23                 | 23                 | 23                 | 23                 |
| Ø stator                            | mm  | 30                 | 30                 | 30                 | 30                 | 30                 | 30                 | 30                 |
| Usable length of tool               | mm  | 250                | 250                | 250                | 250                | 250                | 250                | 250                |
| Profondità di immersione            | mm  | 200                | 200                | 200                | 200                | 200                | 200                | 200                |
| Hardness in "Mohs"                  | max | 6                  | 6                  | 6                  | 6                  | 6                  | 6                  | 6                  |
| Sterilization                       | si  | si                 | si                 | si                 | si                 | si                 | si                 | si                 |
| Ø granules fibrous matter           | mm  |                    |                    | approx.150         | approx. 100        |                    |                    |                    |
| Ø gran. hard and dry matter         | mm  | approx. 12         | approx.1,5         | approx. 12         | approx.1,5         | approx. 12         | approx.1,5         | max 1,5            |
| Item                                |     | <b>632.1052.17</b> | <b>632.1052.23</b> | <b>632.1052.19</b> | <b>632.1052.25</b> | <b>632.1052.21</b> | <b>632.1052.27</b> | <b>632.1052.28</b> |

# ROD STATOR & ROTOR

FOR LARGE VOLUMES FROM 20.000 - 50.000 ML



**1.000 to  
20.000 ml**



**5.000 to  
50.000 ml**



Mixer rotor  
for dispersing  
& mixing at  
high speed

Mixer rotor  
for dispersing  
& mixing at  
high speed

| Technical Specifications            |     | RW-30/PG           | RW-40/PG           |
|-------------------------------------|-----|--------------------|--------------------|
| Recommended volume H <sub>2</sub> O | ml  | 1.000 - 20.000     | 5.000 - 50.000     |
| Max. peripheral velocity            | m/s | 30,6               | 41                 |
| Ø rotor                             | mm  | 15                 | 23                 |
| Ø stator                            | mm  | 30                 | 40                 |
| Usable length of tool               | mm  | 250                | 250                |
| Max depth of immersion              | mm  | 200                | 200                |
| Hardness in "Mohs"                  | max | 6                  | 6                  |
| Sterilization                       |     | yes                | yes                |
| Ø granules fibrous matter           | mm  | 100                | 150                |
| Ø gran. hard and dry matter         | mm  | approx. 8          | approx. 12         |
| Item                                |     | <b>632.1052.15</b> | <b>632.1052.29</b> |

## ACCESSORIES

Adapter for DS 10 KS  
**Item 632.1052.43**



Timer  
**Item 632.1052.42**



Special test tube for DS 10 KS  
**Item 632.1052.44**





# ACCESSORIES HOMOGENISERS

| DS-20/PG                                                                                                                          | DS-20/PF                                                                                                                       | DS-20/PG SmR                                                                                                                     | DS-20/PF SmR                                                                                                                   | DS-20/PG MiR                                                                                                                     | DS-20/PF MiR                                                                                                                    | DS-20/PF EmR                                                                                                                          | RW-30/PG                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <br>Coarse 20 stator<br><b>Item 632.1052.80</b>  | <br>Stator 20 fine<br><b>Item 632.1052.82</b> | <br>Coarse 20 stator<br><b>Item 632.1052.80</b> | <br>Stator 20 fine<br><b>Item 632.1052.82</b> | <br>Coarse 20 stator<br><b>Item 632.1052.80</b> | <br>Stator 20 fine<br><b>Item 632.1052.82</b> | <br>Stator 20 fine<br><b>Item 632.1052.82</b>      | <br>Coarse 30 stator<br><b>Item 632.1052.84</b> |
| <br>Rotor 20 standard<br><b>Item 632.1052.60</b> |                                                                                                                                | <br>Rotor 20 knife<br><b>Item 632.1052.62</b>   |                                                                                                                                | <br>Rotor 20 mixer<br><b>Item 632.1052.64</b>   |                                                                                                                                 | <br>Rotor 20 emulsifier<br><b>Item 632.1052.90</b> | <br>Rotor 20 mixer<br><b>Item 632.1052.64</b>   |

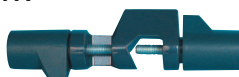
  

| DS-30/PG                                                                                                                            | DS-30/PF                                                                                                                        | DS-30/PG SmR                                                                                                                      | DS-30/PF SmR                                                                                                                    | DS-30/PG MiR                                                                                                                      | DS-30/PF MiR                                                                                                                     | DS-30/PF EmR                                                                                                                            | RW-40/PG                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <br>Coarse 30 stator<br><b>Item 632.1052.84</b>   | <br>Stator 30 fine<br><b>Item 632.1052.86</b> | <br>Coarse 30 stator<br><b>Item 632.1052.84</b> | <br>Stator 30 fine<br><b>Item 632.1052.86</b> | <br>Coarse 30 stator<br><b>Item 632.1052.84</b> | <br>Stator 30 fine<br><b>Item 632.1052.86</b> | <br>Stator 30 fine<br><b>Item 632.1052.86</b>       | <br>Coarse 40 stator<br><b>Item 632.1052.88</b> |
| <br>Rotor 30 standard<br><b>Item 632.1052.66</b> |                                                                                                                                 | <br>Rotor 30 knife<br><b>Item 632.1052.68</b>  |                                                                                                                                 | <br>Rotor 30 mixer<br><b>Item 632.1052.70</b>  |                                                                                                                                  | <br>Rotor 30 emulsifier<br><b>Item 632.1052.92</b> | <br>Rotor 30 mixer<br><b>Item 632.1052.70</b>  |

Chain pincer  
Item 180.3070.89



Clamp for homogeniser  
Item 146.2900.41



Clamp for pincer  
Item 146.2900.05



Steel rod  
Diam 12x600 mm  
Item 263.7120.06

Base 180 x 200 mm  
Item 263.7122.37

