

# Manual Motor Starters

## Product Selection Guide

### Quick selection table ... IEC rating



| Frame                                     |                                             |                                      | 32AF                     |                 |                 |                 |                 |                 |                 |                 |                 |                 |                          |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|-------------------------------------------|---------------------------------------------|--------------------------------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Type                                      | Current adjustable type                     |                                      | MMS-32S                  |                 |                 |                 |                 |                 |                 |                 |                 |                 | MMS-32H                  |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|                                           | Instantaneous type                          |                                      | -                        |                 |                 |                 |                 |                 |                 |                 |                 |                 | MMS-32HI                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Breaking capacity                         |                                             |                                      | Standard                 |                 |                 |                 |                 |                 |                 |                 |                 |                 | High breaking            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Handle Type                               |                                             |                                      | Toggle                   |                 |                 |                 |                 |                 |                 |                 |                 |                 | Rotary                   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Number of poles                           |                                             |                                      | 3                        |                 |                 |                 |                 |                 |                 |                 |                 |                 | 3                        |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Rated operational voltage (Ue)            |                                             |                                      | Up to 690V               |                 |                 |                 |                 |                 |                 |                 |                 |                 | Up to 690V               |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Rated frequency                           |                                             |                                      | 50/60 Hz                 |                 |                 |                 |                 |                 |                 |                 |                 |                 | 50/60 Hz                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Rated insulation voltage (Ui)             |                                             |                                      | 690V                     |                 |                 |                 |                 |                 |                 |                 |                 |                 | 690V                     |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Rated impulse voltage (Uimp)              |                                             |                                      | 6kV                      |                 |                 |                 |                 |                 |                 |                 |                 |                 | 6kV                      |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Utilization category                      | IEC 60 947-2 (Breaker)                      |                                      | Cat. A                   |                 |                 |                 |                 |                 |                 |                 |                 |                 | Cat. A                   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|                                           | IEC 60 947-4 (Motor starter)                |                                      | AC 3                     |                 |                 |                 |                 |                 |                 |                 |                 |                 | AC 3                     |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Mechanical endurance (Operating)          |                                             |                                      | 100,000                  |                 |                 |                 |                 |                 |                 |                 |                 |                 | 100,000                  |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Electrical endurance (Cycles)             |                                             |                                      | 100,000                  |                 |                 |                 |                 |                 |                 |                 |                 |                 | 100,000                  |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Max operating frequency per hour (Ope./h) |                                             |                                      | 25                       |                 |                 |                 |                 |                 |                 |                 |                 |                 | 25                       |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Temperature compensation (Operation)      |                                             |                                      | -20 ~ +60℃               |                 |                 |                 |                 |                 |                 |                 |                 |                 | -20 ~ +60℃               |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Instantaneous short circuit release       |                                             |                                      | 13 × I <sub>e</sub> max. |                 |                 |                 |                 |                 |                 |                 |                 |                 | 13 × I <sub>e</sub> max. |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Overload protection                       |                                             |                                      | ○                        |                 |                 |                 |                 |                 |                 |                 |                 |                 | ○                        |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Phase failure function                    |                                             |                                      | ○                        |                 |                 |                 |                 |                 |                 |                 |                 |                 | ○                        |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Trip indicating function                  |                                             |                                      | ×                        |                 |                 |                 |                 |                 |                 |                 |                 |                 | ×                        |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Test function                             |                                             |                                      | ○                        |                 |                 |                 |                 |                 |                 |                 |                 |                 | ○                        |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Weight (g)                                |                                             |                                      | 320                      |                 |                 |                 |                 |                 |                 |                 |                 |                 | 360                      |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Rated breaking capacity (kA)              | Rated operational current (I <sub>e</sub> ) | Thermal release Adjustment range (A) | 220V 240V 230V           |                 | 415V 400V       |                 | 460V 440V       |                 | 525V 500V       |                 | 690V 600V       |                 | 220V 240V 230V           |                 | 415V 400V       |                 | 460V 440V       |                 | 525V 500V       |                 | 690V 600V       |                 |
|                                           |                                             |                                      | I <sub>cu</sub>          | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub>          | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> |
|                                           | 0.16                                        | 0.1~0.16                             | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             |
|                                           | 0.25                                        | 0.16~0.25                            | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             |
|                                           | 0.4                                         | 0.25~0.4                             | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             |
|                                           | 0.63                                        | 0.4~0.63                             | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             |
|                                           | 1                                           | 0.63~1                               | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             |
|                                           | 1.6                                         | 1~1.6                                | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 3               | 3               | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 100             |
|                                           | 2.5                                         | 1.6~2.5                              | 100                      | 100             | 100             | 100             | 100             | 100             | 50              | 38              | 3               | 3               | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 8               | 8               |
|                                           | 4                                           | 2.5~4                                | 100                      | 100             | 100             | 100             | 50              | 38              | 15              | 11              | 3               | 3               | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 8               | 8               |
|                                           | 6                                           | 4~6                                  | 100                      | 100             | 100             | 100             | 15              | 11              | 10              | 8               | 3               | 3               | 100                      | 100             | 100             | 100             | 100             | 100             | 100             | 100             | 6               | 6               |
|                                           | 8                                           | 5~8                                  | 100                      | 100             | 100             | 100             | 15              | 11              | 10              | 8               | 3               | 3               | 100                      | 100             | 100             | 100             | 50              | 38              | 50              | 38              | 6               | 6               |
|                                           | 10                                          | 6~10                                 | 100                      | 100             | 50              | 38              | 15              | 11              | 6               | 5               | 3               | 3               | 100                      | 100             | 100             | 100             | 50              | 38              | 50              | 38              | 6               | 6               |
|                                           | 13                                          | 9~13                                 | 100                      | 100             | 50              | 38              | 10              | 8               | 6               | 5               | 3               | 3               | 100                      | 100             | 100             | 100             | 50              | 38              | 42              | 32              | 6               | 6               |
|                                           | 17                                          | 11~17                                | 50                       | 38              | 20              | 15              | 10              | 8               | 6               | 5               | 3               | 3               | 100                      | 100             | 50              | 38              | 20              | 15              | 10              | 8               | 4               | 4               |
|                                           | 22                                          | 14~22                                | 40                       | 30              | 15              | 11              | 8               | 6               | 6               | 5               | 3               | 3               | 100                      | 100             | 50              | 38              | 20              | 15              | 10              | 8               | 4               | 4               |
|                                           | 26                                          | 18~26                                | 40                       | 30              | 15              | 11              | 8               | 6               | 5               | 4               | 3               | 3               | 100                      | 100             | 50              | 38              | 20              | 15              | 10              | 8               | 4               | 4               |
|                                           | 32                                          | 22~32                                | 30                       | 22              | 15              | 11              | 6               | 4               | 5               | 4               | 3               | 3               | 100                      | 100             | 50              | 38              | 20              | 15              | 10              | 8               | 4               | 4               |
|                                           | 40                                          | 28~40                                | 20                       | 15              | 10              | 8               | 5               | 3               | 4               | 3               | 2               | 2               | 100                      | 100             | 40              | 30              | 15              | 11              | 8               | 6               | 3               | 3               |
|                                           | 50                                          | 34~50                                | -                        | -               | -               | -               | -               | -               | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -               | -               | -               | -               | -               |
|                                           | 63                                          | 45~63                                | -                        | -               | -               | -               | -               | -               | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -               | -               | -               | -               | -               |
|                                           | 65                                          | 47~65                                | -                        | -               | -               | -               | -               | -               | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -               | -               | -               | -               | -               |
|                                           | 75                                          | 55~75                                | -                        | -               | -               | -               | -               | -               | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -               | -               | -               | -               | -               |
| 90                                        | 70~90                                       | -                                    | -                        | -               | -               | -               | -               | -               | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -               | -               | -               | -               |                 |
| 100                                       | 80~100                                      | -                                    | -                        | -               | -               | -               | -               | -               | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -               | -               | -               | -               |                 |



| 63AF                     |                 |                 |                 |                 |                      |                 |                 |                 |                 |                          |                 |                 |                 |                 | 100AF                    |                 |                 |                 |                 |                      |                 |                 |                 |                 |                          |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
|--------------------------|-----------------|-----------------|-----------------|-----------------|----------------------|-----------------|-----------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|----------------------|-----------------|-----------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----|-----|-----|-----|----|----|----|----|----|---|
| MMS-63S                  |                 |                 |                 |                 |                      |                 |                 |                 |                 | MMS-63H                  |                 |                 |                 |                 | MMS-100S                 |                 |                 |                 |                 |                      |                 |                 |                 |                 | MMS-100H                 |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| -                        |                 |                 |                 |                 |                      |                 |                 |                 |                 | MMS-63HI                 |                 |                 |                 |                 | -                        |                 |                 |                 |                 |                      |                 |                 |                 |                 | MMS-100HI                |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| Standard                 |                 |                 |                 |                 |                      |                 |                 |                 |                 | High breaking            |                 |                 |                 |                 | Standard                 |                 |                 |                 |                 |                      |                 |                 |                 |                 | High breaking            |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| Rotary                   |                 |                 |                 |                 |                      |                 |                 |                 |                 | Rotary                   |                 |                 |                 |                 | Rotary                   |                 |                 |                 |                 |                      |                 |                 |                 |                 | Rotary                   |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| 3                        |                 |                 |                 |                 |                      |                 |                 |                 |                 | 3                        |                 |                 |                 |                 | 3                        |                 |                 |                 |                 |                      |                 |                 |                 |                 | 3                        |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| Up to 690V               |                 |                 |                 |                 |                      |                 |                 |                 |                 | Up to 690V               |                 |                 |                 |                 | Up to 690V               |                 |                 |                 |                 |                      |                 |                 |                 |                 | Up to 690V               |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| 50/60 Hz                 |                 |                 |                 |                 |                      |                 |                 |                 |                 | 50/60 Hz                 |                 |                 |                 |                 | 50/60 Hz                 |                 |                 |                 |                 |                      |                 |                 |                 |                 | 50/60 Hz                 |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| 1,000V                   |                 |                 |                 |                 |                      |                 |                 |                 |                 | 1,000V                   |                 |                 |                 |                 | 1,000V                   |                 |                 |                 |                 |                      |                 |                 |                 |                 | 1,000V                   |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| 8kV                      |                 |                 |                 |                 |                      |                 |                 |                 |                 | 8kV                      |                 |                 |                 |                 | 8kV                      |                 |                 |                 |                 |                      |                 |                 |                 |                 | 8kV                      |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| Cat. A                   |                 |                 |                 |                 |                      |                 |                 |                 |                 | Cat. A                   |                 |                 |                 |                 | Cat. A                   |                 |                 |                 |                 |                      |                 |                 |                 |                 | Cat. A                   |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| AC 3                     |                 |                 |                 |                 |                      |                 |                 |                 |                 | AC 3                     |                 |                 |                 |                 | AC 3                     |                 |                 |                 |                 |                      |                 |                 |                 |                 | AC 3                     |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| 50,000                   |                 |                 |                 |                 |                      |                 |                 |                 |                 | 50,000                   |                 |                 |                 |                 | 50,000                   |                 |                 |                 |                 |                      |                 |                 |                 |                 | 50,000                   |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| 25,000                   |                 |                 |                 |                 |                      |                 |                 |                 |                 | 25,000                   |                 |                 |                 |                 | 25,000                   |                 |                 |                 |                 |                      |                 |                 |                 |                 | 25,000                   |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| 25                       |                 |                 |                 |                 |                      |                 |                 |                 |                 | 25                       |                 |                 |                 |                 | 25                       |                 |                 |                 |                 |                      |                 |                 |                 |                 | 25                       |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| -20 ~ +60℃               |                 |                 |                 |                 |                      |                 |                 |                 |                 | -20 ~ +60℃               |                 |                 |                 |                 | -20 ~ +60℃               |                 |                 |                 |                 |                      |                 |                 |                 |                 | -20 ~ +60℃               |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| 13 × I <sub>e</sub> max. |                 |                 |                 |                 |                      |                 |                 |                 |                 | 13 × I <sub>e</sub> max. |                 |                 |                 |                 | 13 × I <sub>e</sub> max. |                 |                 |                 |                 |                      |                 |                 |                 |                 | 13 × I <sub>e</sub> max. |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| ○                        |                 |                 |                 |                 |                      |                 |                 |                 |                 | ○                        |                 |                 |                 |                 | ○                        |                 |                 |                 |                 |                      |                 |                 |                 |                 | ○                        |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| ○                        |                 |                 |                 |                 |                      |                 |                 |                 |                 | ○                        |                 |                 |                 |                 | ○                        |                 |                 |                 |                 |                      |                 |                 |                 |                 | ○                        |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| ×                        |                 |                 |                 |                 |                      |                 |                 |                 |                 | ×                        |                 |                 |                 |                 | ○                        |                 |                 |                 |                 |                      |                 |                 |                 |                 | ○                        |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| ○                        |                 |                 |                 |                 |                      |                 |                 |                 |                 | ○                        |                 |                 |                 |                 | ○                        |                 |                 |                 |                 |                      |                 |                 |                 |                 | ○                        |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| 1,000                    |                 |                 |                 |                 |                      |                 |                 |                 |                 | 1,000                    |                 |                 |                 |                 | 2,200                    |                 |                 |                 |                 |                      |                 |                 |                 |                 | 2,200                    |                 |                 |                 |                 |     |     |     |     |    |    |    |    |    |   |
| 220V<br>240V<br>230V     | 415V<br>400V    | 460V<br>440V    | 525V<br>500V    | 690V<br>600V    | 220V<br>240V<br>230V | 415V<br>400V    | 460V<br>440V    | 525V<br>500V    | 690V<br>600V    | 220V<br>240V<br>230V     | 415V<br>400V    | 460V<br>440V    | 525V<br>500V    | 690V<br>600V    | 220V<br>240V<br>230V     | 415V<br>400V    | 460V<br>440V    | 525V<br>500V    | 690V<br>600V    | 220V<br>240V<br>230V | 415V<br>400V    | 460V<br>440V    | 525V<br>500V    | 690V<br>600V    | 220V<br>240V<br>230V     | 415V<br>400V    | 460V<br>440V    | 525V<br>500V    | 690V<br>600V    |     |     |     |     |    |    |    |    |    |   |
| I <sub>cu</sub>          | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub>      | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub>          | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub>          | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub>      | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub>          | I <sub>cu</sub> | I <sub>cs</sub> | I <sub>cu</sub> | I <sub>cs</sub> |     |     |     |     |    |    |    |    |    |   |
| -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -   |     |     |     |    |    |    |    |    |   |
| -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -   |     |     |     |    |    |    |    |    |   |
| -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -   |     |     |     |    |    |    |    |    |   |
| -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -   |     |     |     |    |    |    |    |    |   |
| -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -   |     |     |     |    |    |    |    |    |   |
| -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -   |     |     |     |    |    |    |    |    |   |
| -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -   |     |     |     |    |    |    |    |    |   |
| -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -   |     |     |     |    |    |    |    |    |   |
| 100                      | 100             | 100             | 100             | 15              | 12                   | 10              | 8               | 4               | 3               | 100                      | 100             | 100             | 100             | 50              | 38                       | 50              | 38              | 6               | 5               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -   | -   |     |     |    |    |    |    |    |   |
| 100                      | 100             | 50              | 38              | 10              | 8                    | 6               | 5               | 4               | 3               | 100                      | 100             | 100             | 100             | 50              | 38                       | 42              | 32              | 6               | 5               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -   | -   |     |     |    |    |    |    |    |   |
| 100                      | 100             | 25              | 19              | 10              | 8                    | 6               | 5               | 4               | 3               | 100                      | 100             | 50              | 50              | 50              | 38                       | 12              | 9               | 5               | 5               | 100                  | 100             | 50              | 38              | 40              | 30                       | 25              | 19              | 10              | 8               | 100 | 100 | 100 | 100 | 50 | 38 | 35 | 27 | 12 | 9 |
| 50                       | 38              | 25              | 19              | 10              | 8                    | 6               | 5               | 4               | 3               | 100                      | 100             | 50              | 50              | 50              | 38                       | 12              | 9               | 5               | 5               | 100                  | 100             | 50              | 38              | 40              | 30                       | 25              | 19              | 10              | 8               | 100 | 100 | 100 | 50  | 50 | 38 | 35 | 27 | 12 | 9 |
| 50                       | 38              | 25              | 19              | 10              | 8                    | 6               | 5               | 4               | 3               | 100                      | 100             | 50              | 50              | 35              | 27                       | 12              | 9               | 5               | 5               | 100                  | 100             | 50              | 38              | 40              | 30                       | 25              | 19              | 10              | 8               | 100 | 100 | 100 | 50  | 50 | 38 | 35 | 27 | 12 | 9 |
| 50                       | 38              | 25              | 19              | 10              | 8                    | 6               | 5               | 4               | 3               | 100                      | 100             | 50              | 50              | 35              | 27                       | 10              | 8               | 5               | 5               | 100                  | 100             | 50              | 38              | 40              | 30                       | 15              | 11              | 10              | 8               | 100 | 100 | 100 | 50  | 50 | 38 | 25 | 19 | 12 | 9 |
| 50                       | 38              | 25              | 19              | 10              | 8                    | 6               | 5               | 4               | 3               | 100                      | 100             | 50              | 50              | 35              | 27                       | 10              | 8               | 5               | 5               | 100                  | 100             | 50              | 38              | 40              | 30                       | 15              | 11              | 6               | 5               | 100 | 100 | 100 | 50  | 50 | 38 | 20 | 15 | 12 | 9 |
| 50                       | 38              | 25              | 19              | 10              | 8                    | 6               | 5               | 4               | 3               | 100                      | 100             | 50              | 50              | 35              | 27                       | 10              | 8               | 5               | 5               | 100                  | 100             | 50              | 38              | 40              | 30                       | 12              | 9               | 6               | 5               | 100 | 100 | 100 | 50  | 50 | 38 | 15 | 11 | 10 | 8 |
| 50                       | 38              | 25              | 19              | 10              | 8                    | 6               | 5               | 4               | 3               | 100                      | 100             | 50              | 50              | 35              | 27                       | 10              | 8               | 5               | 5               | 100                  | 100             | 50              | 38              | 40              | 30                       | 12              | 9               | 6               | 5               | 100 | 100 | 100 | 50  | 50 | 38 | 15 | 11 | 8  | 6 |
| 50                       | 38              | 25              | 19              | 10              | 8                    | 6               | 5               | 4               | 3               | 75                       | 50              | 35              | 27              | 25              | 19                       | 6               | 5               | 3               | 3               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -   | -   | -   | -   | -  | -  | -  | -  |    |   |
| -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                        | -               | -               | -               | -               | 100                  | 100             | 50              | 38              | 40              | 30                       | 8               | 6               | 5               | 4               | 100 | 100 | 75  | 50  | 50 | 38 | 12 | 9  | 6  | 6 |
| -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                        | -               | -               | -               | -               | 100                  | 100             | 50              | 38              | 40              | 30                       | 8               | 6               | 5               | 4               | 100 | 100 | 75  | 50  | 50 | 38 | 12 | 9  | 6  | 6 |
| -                        | -               | -               | -               | -               | -                    | -               | -               | -               | -               | -                        | -               | -               | -               | -               | -                        | -               | -               | -               | -               | 100                  | 100             | 50              | 38              | 40              | 30                       | 8               | 6               | 5               | 4               | 100 | 100 | 75  | 50  | 50 | 38 | 12 | 9  | 6  | 6 |