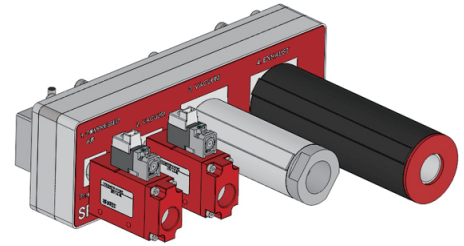


## SM Series

### 제품의 특징 (Features of product)

- ▶ 풍부한 흡입 유량 - 큰 사이즈 및 통기성이 있는 작업물에 적합
- ▶ 모터 펌프 대체 가능 - 풍부한 유량과 고진공 발생이 가능
- ▶ 에어 절감 장치 부착 가능 - 에너지 소비를 최소화 가능
- ▶ 낮은 소음도 - 작업 환경의 개선
- ▶ 풀 옵션 부착 가능 - 메인 솔밸브, 진공 파괴 솔밸브, 진공필터, 진공 센서 등
- ▶ 불규칙한 공급 압력에 사용 가능 - 5~7bar
- ▶ Abundant suction flow - Suitable for large size and ventilated work
- ▶ Possible to replace motor pump - Abundant flow and high vacuum can be generated
- ▶ Air saving device can be attached - Energy consumption can be minimized
- ▶ Low noise - Improve work environment
- ▶ Possible to attach pull option - Main sol valve, vacuum break sol valve, vacuum filter, vacuum sensor etc.
- ▶ Available for irregular supply pressure - 5 ~ 7bar



2D download

3D download

[www.spatec.co.kr](http://www.spatec.co.kr)

### Order No.

ex) **SM**, 모델-전기식모터 대체용량 : 428 N ℓ / m (0.25 KW), 흡입구 사이즈 : PF 1/2" (Standard), 씰링 : Standard (NBR),  
에어공급 : MD4 (DC 24V), 진공파기밸브 : RD4 (DC 24V), 진공 스위치 : S (Digital display output 2 points),  
진공필터 : F12 (PF 1/2" (STVF-12)) 가 필요한 경우, **SM1-V12-MD4-RD4-S-F12** 를 주문하시면 됩니다.

## SM①-②-③-④-⑤-⑥-⑦

#### ① 모델-전기식모터 대체용량

(Model-Capacity equivalent to electricity motor pump size)

- 1 : 428 N ℓ / m (0.25 KW)
- 2 : 712 N ℓ / m (0.5 KW)
- 3 : 979 N ℓ / m (0.75 KW)
- 4 : 1210 N ℓ / m (1.0 KW)
- 5 : 1320 N ℓ / m (1.25 KW)
- 6 : 1518 N ℓ / m (1.5 KW)
- 7 : 1639 N ℓ / m (1.75 KW)
- 8 : 1738 N ℓ / m (2.0 KW)

#### ④ 에어공급 & 절감밸브 (Air supply C/R & ES valve & ESKMR14 valve)

- X : None
- MA1 : AC 110V Single-acting (단동)
- MA2 : AC 220V Single-acting (단동)
- MD4 : DC 24V Single-acting (단동)
- DMA1 : AC 110V Double-acting (복동)
- DMA2 : AC 220V Double-acting (복동)
- DMD4 : DC 24V Double-acting (복동)
- ES : Energy saving kit
- ESKMR14 : Energy saving kit valve system  
(All in one valve-three solenoid valve)

#### ⑥ 진공스위치-디지털 (Vacuum switch)

- X : None
- S : Digital display output 2 points
- S1 : Digital display output 2 points  
(analog supply)
- PS : Digital display output 2 points  
(PNP open collector)
- PS1 : Digital display output 2 points  
(PNP open collector-analog supply)

#### ② 흡입구 사이즈 (Vacuum port)

- V12 : PF 1/2" (Standard)
- V34 : PF 3/4"
- V01 : PF 1" (Special / SM4~8)

#### ③ 씰링 (Sealing)

- V : Viton
- S : Silicon
- E : EPDM
- NR : Non return valve

**No mark : Standard (NBR)**

#### ⑤ 파기밸브 (Vacuum release C/R valve)

- X : None
- RA1 : AC 110V
- RA2 : AC 220V
- RD4 : DC 24V

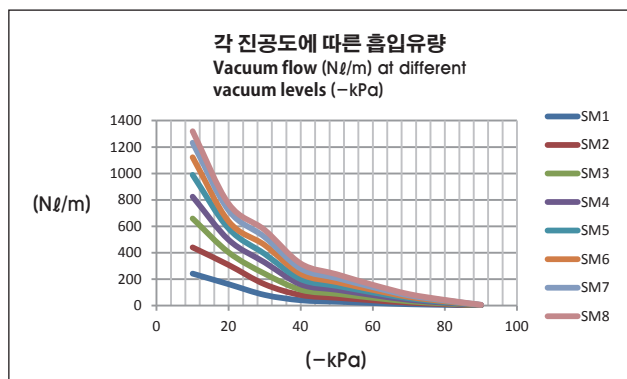
#### ⑦ 진공필터 (Vacuum filter)

- X : None
- F12 : PF 1/2" (STVF-12)
- F34 : PF 3/4" (STVF-34)
- F12L : PF 1/2" (STVF-12L-Line filter)
- F34L : PF 3/4" (STVF-34L-Line filter)

## 펌프의 특징 (Pump Characteristics)

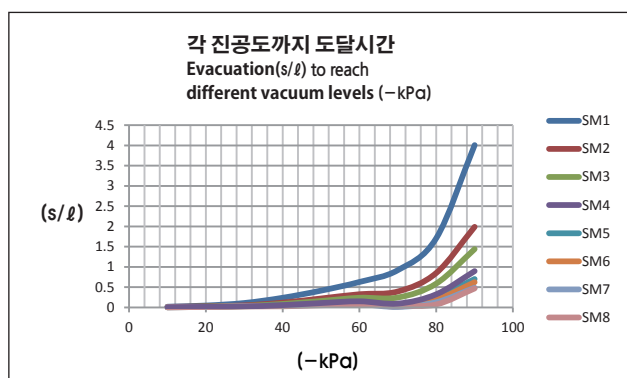
| 모 델<br>Model | 공급압력<br>Supply Air Pressure (bar) | 최대진공도<br>Max. vacuum (-kPa) (-mmHg) | 최대흡입유량<br>Max. vacuum flow (N ℓ / m) | 에어소모량<br>Air consumption (N ℓ / m) | 최소호스내경<br>(2m이내기준)<br>min hose innerϕ (within 2M) |        |         | 소음도<br>Noise (d B A) | 무 게<br>Weight (g) | 사용온도<br>Working Temperature (°C) | 사용재질<br>Material  |
|--------------|-----------------------------------|-------------------------------------|--------------------------------------|------------------------------------|---------------------------------------------------|--------|---------|----------------------|-------------------|----------------------------------|-------------------|
|              |                                   |                                     |                                      |                                    | Air                                               | Vacuum | Exhaust |                      |                   |                                  |                   |
| SM1          | 5~6<br>Max. 7                     | -92 kPa<br>(690mmHg)                | 428                                  | 78~108                             | >6                                                | >12    | >12     | 50~60                | 630               | -20~80                           | AL,<br>POM,<br>PP |
| SM2          |                                   |                                     | 712                                  | 150~210                            | >8                                                | >15    | >15     | 50~60                | 632               |                                  |                   |
| SM3          |                                   |                                     | 979                                  | 228~318                            | >10                                               | >19    | >22     | 55~65                | 804               |                                  |                   |
| SM4          |                                   |                                     | 1210                                 | 300~420                            | >10                                               | >19    | >22     | 55~65                | 806               |                                  |                   |
| SM5          |                                   |                                     | 1320                                 | 378~528                            | >10                                               | >25    | >32     | 60~65                | 946               |                                  |                   |
| SM6          |                                   |                                     | 1518                                 | 450~630                            | >10                                               | >25    | >32     | 60~65                | 948               |                                  |                   |
| SM7          |                                   |                                     | 1639                                 | 528~738                            | >10                                               | >32    | >40     | 60~65                | 1158              |                                  |                   |
| SM8          |                                   |                                     | 1738                                 | 600~840                            | >10                                               | >32    | >40     | 60~65                | 1160              |                                  |                   |

## 진공흡입유량 (Induce air in liter per minute) (N ℓ / m)



| 모 델<br>Model | 0<br>(-mmHg)<br>0<br>(-kPa) | 75   | 150 | 225 | 300 | 375 | 450 | 525 | 600 | 675 |
|--------------|-----------------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| SM1          | 428                         | 242  | 162 | 81  | 41  | 30  | 20  | 11  | 6   | 0.8 |
| SM2          | 712                         | 440  | 307 | 161 | 80  | 59  | 40  | 22  | 11  | 1.7 |
| SM3          | 979                         | 660  | 403 | 242 | 121 | 90  | 60  | 33  | 17  | 2.6 |
| SM4          | 1210                        | 825  | 498 | 327 | 161 | 120 | 80  | 44  | 22  | 3.5 |
| SM5          | 1320                        | 990  | 583 | 391 | 200 | 149 | 99  | 55  | 27  | 4.4 |
| SM6          | 1518                        | 1122 | 637 | 458 | 240 | 178 | 119 | 66  | 33  | 5.2 |
| SM7          | 1639                        | 1232 | 720 | 518 | 279 | 208 | 139 | 77  | 39  | 6.1 |
| SM8          | 1738                        | 1320 | 771 | 573 | 319 | 238 | 158 | 88  | 44  | 7.1 |

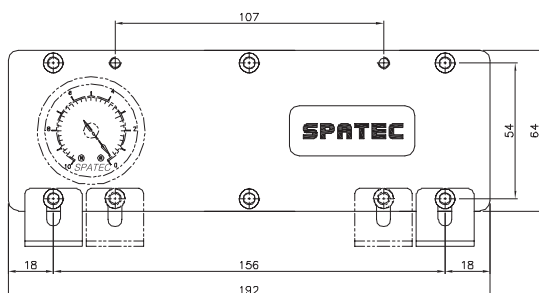
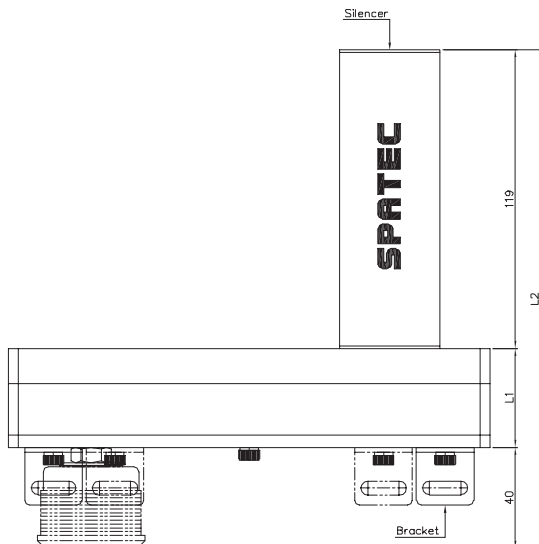
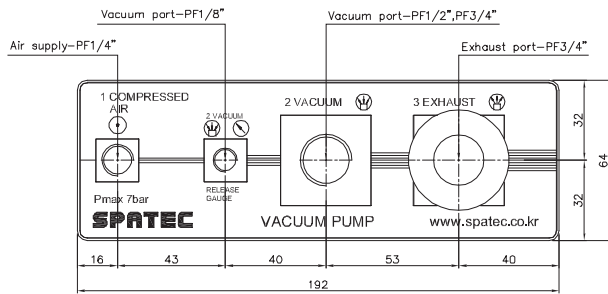
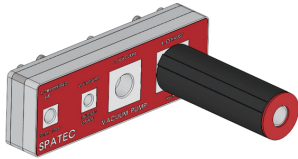
## 진공 도달시간 (Time in seconds to evacuate to vacuum level) (sec/ ℓ)



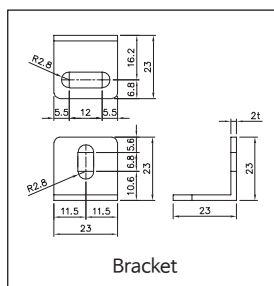
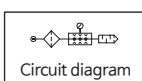
| 모 델<br>Model | 75<br>(-mmHg)<br>10<br>(-kPa) | 150   | 225   | 300   | 375   | 450   | 525   | 600   | 675   |
|--------------|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| SM1          | 0.019                         | 0.048 | 0.11  | 0.239 | 0.416 | 0.63  | 0.922 | 1.71  | 4.01  |
| SM2          | 0.012                         | 0.026 | 0.05  | 0.117 | 0.22  | 0.325 | 0.393 | 0.85  | 1.99  |
| SM3          | 0.009                         | 0.021 | 0.037 | 0.087 | 0.16  | 0.239 | 0.245 | 0.588 | 1.44  |
| SM4          | 0.006                         | 0.016 | 0.025 | 0.059 | 0.11  | 0.153 | 0.097 | 0.326 | 0.897 |
| SM5          | 0.005                         | 0.014 | 0.031 | 0.055 | 0.092 | 0.131 | 0.06  | 0.26  | 0.7   |
| SM6          | 0.005                         | 0.013 | 0.029 | 0.047 | 0.078 | 0.109 | 0.023 | 0.194 | 0.623 |
| SM7          | 0.005                         | 0.013 | 0.028 | 0.039 | 0.065 | 0.08  | 0.014 | 0.129 | 0.486 |
| SM8          | 0.004                         | 0.011 | 0.026 | 0.027 | 0.054 | 0.07  | 0.047 | 0.074 | 0.47  |

## 기본사양 (Normal)

SM(1~8)-V12(V34)

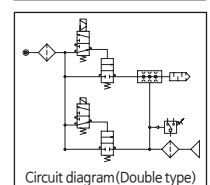
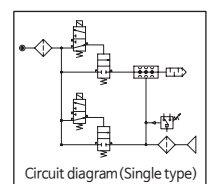
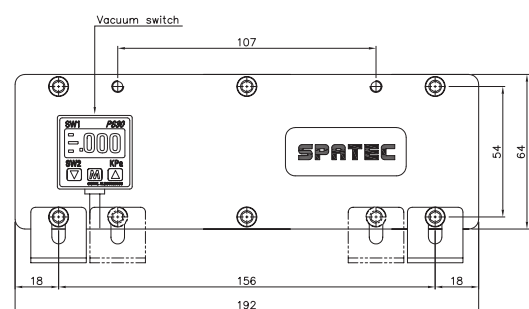
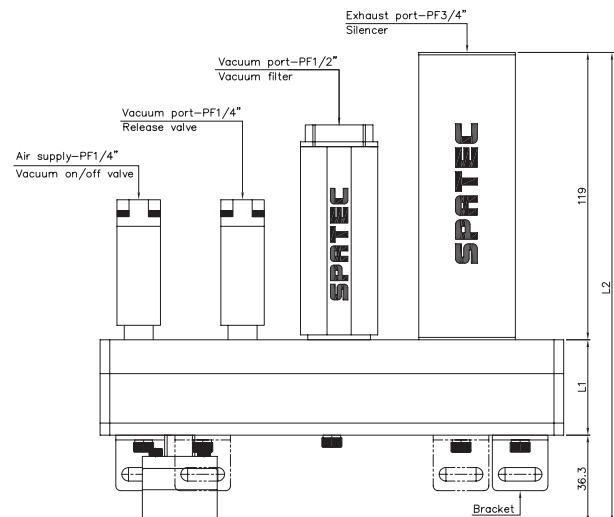
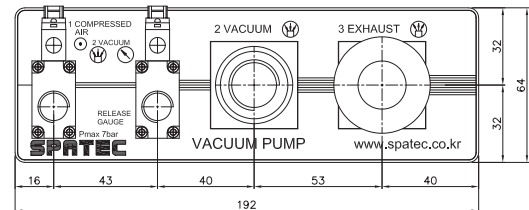
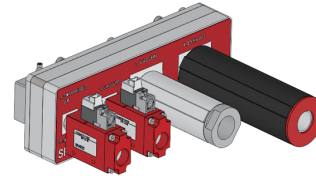


| Model | L1 (mm) | L2 (mm) |
|-------|---------|---------|
| SM1   | 39.5    | 198.5   |
| SM2   | 39.5    | 198.5   |
| SM3   | 60      | 219     |
| SM4   | 60      | 219     |
| SM5   | 80.5    | 239.5   |
| SM6   | 80.5    | 239.5   |
| SM7   | 101     | 260     |
| SM8   | 101     | 260     |



## 옵션사양 (Option)

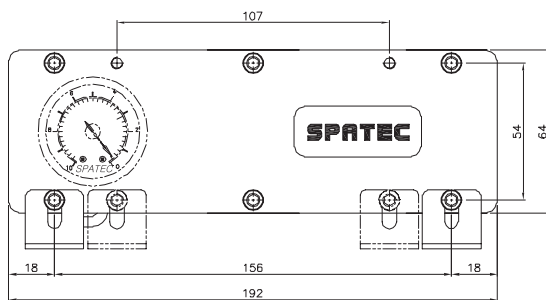
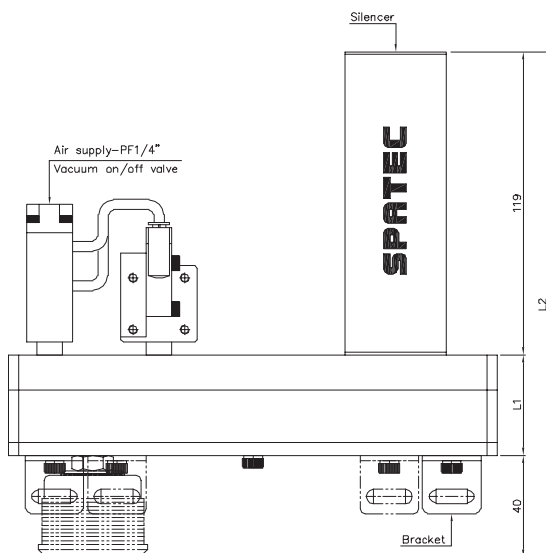
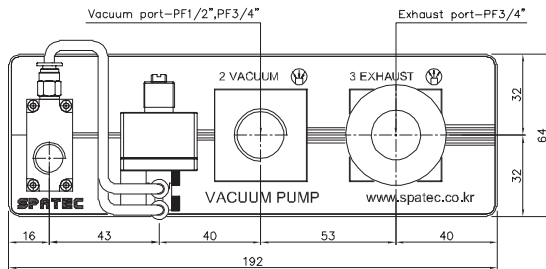
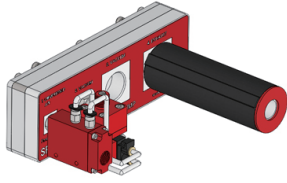
단동 type(복동 type), 진공 On/Off 밸브, 진공 파기밸브, 진공센서, 진공필터  
Single-acting type(Double-acting type), Vacuum On/Off valve, Vacuum release C/R valve, Vacuum switch, Vacuum filter  
SM(1~8)-V12(V34)-MD4(DMD4)-RD4-S-F



| Model | L1 (mm) | L2 (mm) |
|-------|---------|---------|
| SM1   | 39.5    | 194.8   |
| SM2   | 39.5    | 194.8   |
| SM3   | 60      | 215.3   |
| SM4   | 60      | 215.3   |
| SM5   | 80.5    | 235.8   |
| SM6   | 80.5    | 235.8   |

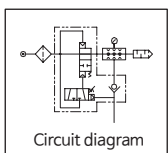
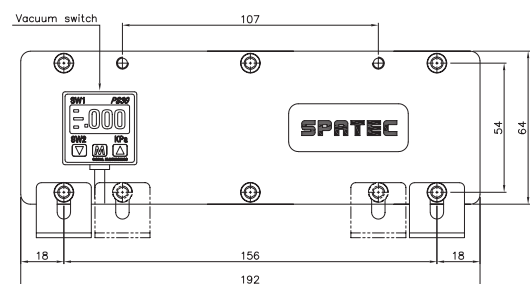
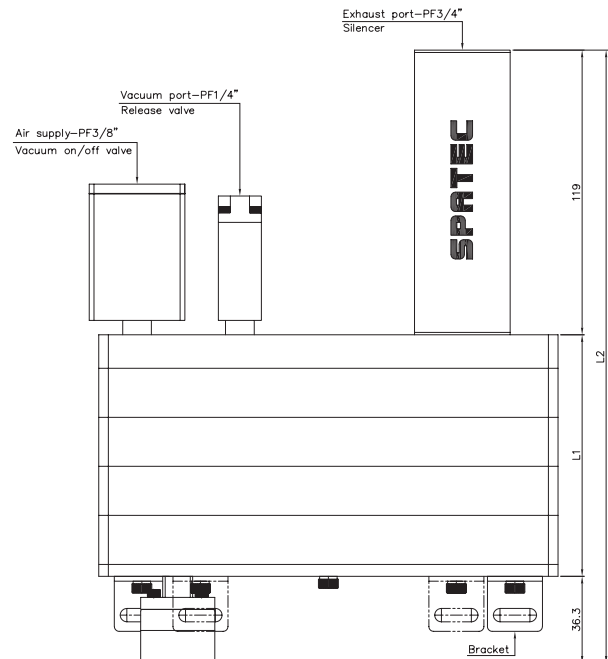
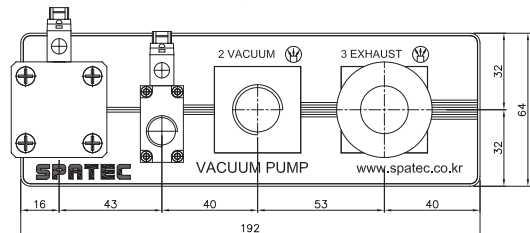
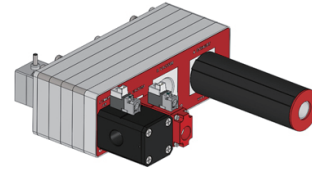
## 옵션사양 (Option)

에어절감밸브 (Energy saving valve)  
SM(1~8)-V12(V34)-ES

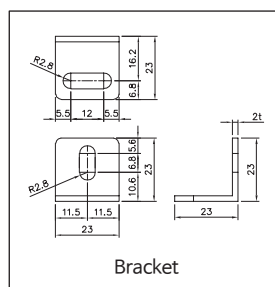


## 옵션사양 (Option)

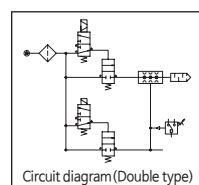
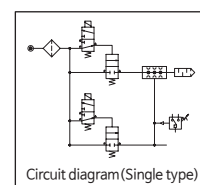
단동 type(복동 type), 진공 On/Off 밸브, 진공 파기밸브, 진공센서  
Single-acting type(Double-acting type), Vacuum On/Off valve,  
Vacuum release C/R valve, Vacuum switch  
SM(7~8)-V12(V34)-MD4(DMD4)-RD4-S



| Model | L1(mm) | L2(mm) |
|-------|--------|--------|
| SM1   | 39.5   | 198.5  |
| SM2   | 39.5   | 198.5  |
| SM3   | 60     | 219    |
| SM4   | 60     | 219    |
| SM5   | 80.5   | 239.5  |
| SM6   | 80.5   | 239.5  |
| SM7   | 101    | 260    |
| SM8   | 101    | 260    |



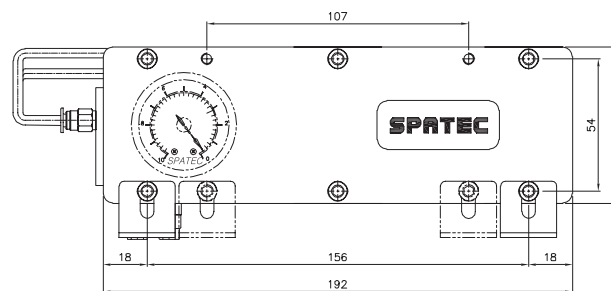
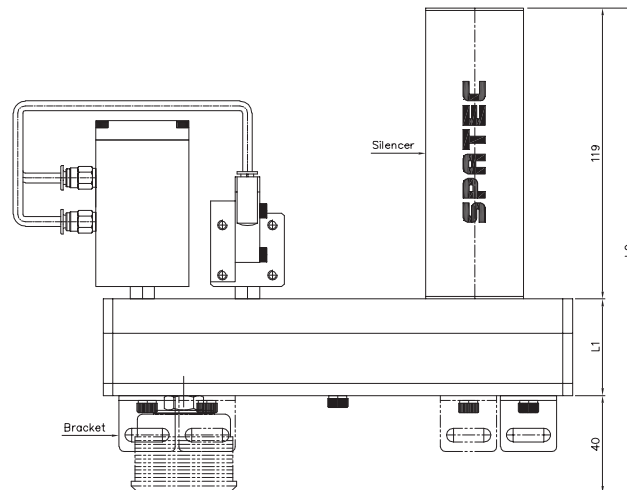
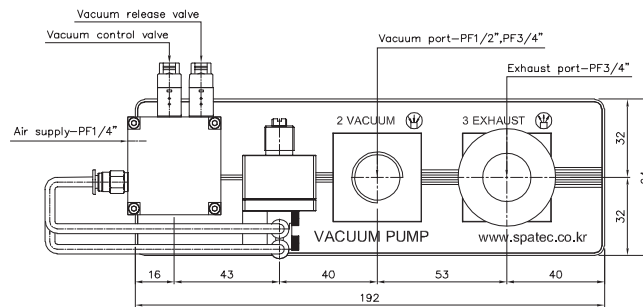
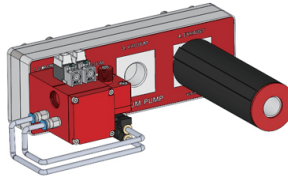
| Model | L1(mm) | L2(mm) |
|-------|--------|--------|
| SM7   | 101    | 256.3  |
| SM8   | 101    | 256.3  |



## 옵션사양 (Option)

ESKMR14 : Energy saving kit valve system (All in one valve-three solenoid valve)

SM(1~4)-V12(V34)-ESKMR14



| Model | L1 (mm) | L2 (mm) |
|-------|---------|---------|
| SM1   | 39.5    | 198.5   |
| SM2   | 39.5    | 198.5   |
| SM3   | 60      | 219     |
| SM4   | 60      | 219     |

